

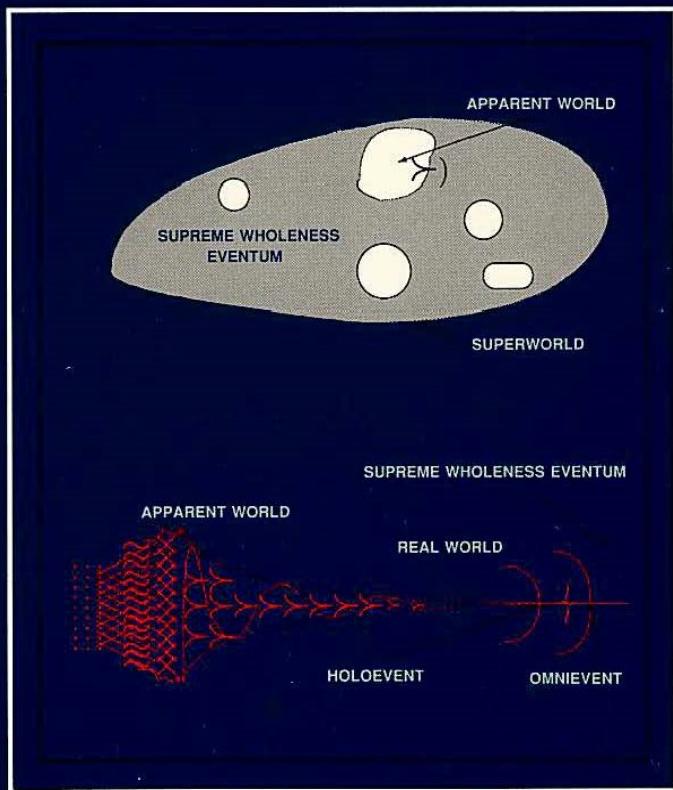
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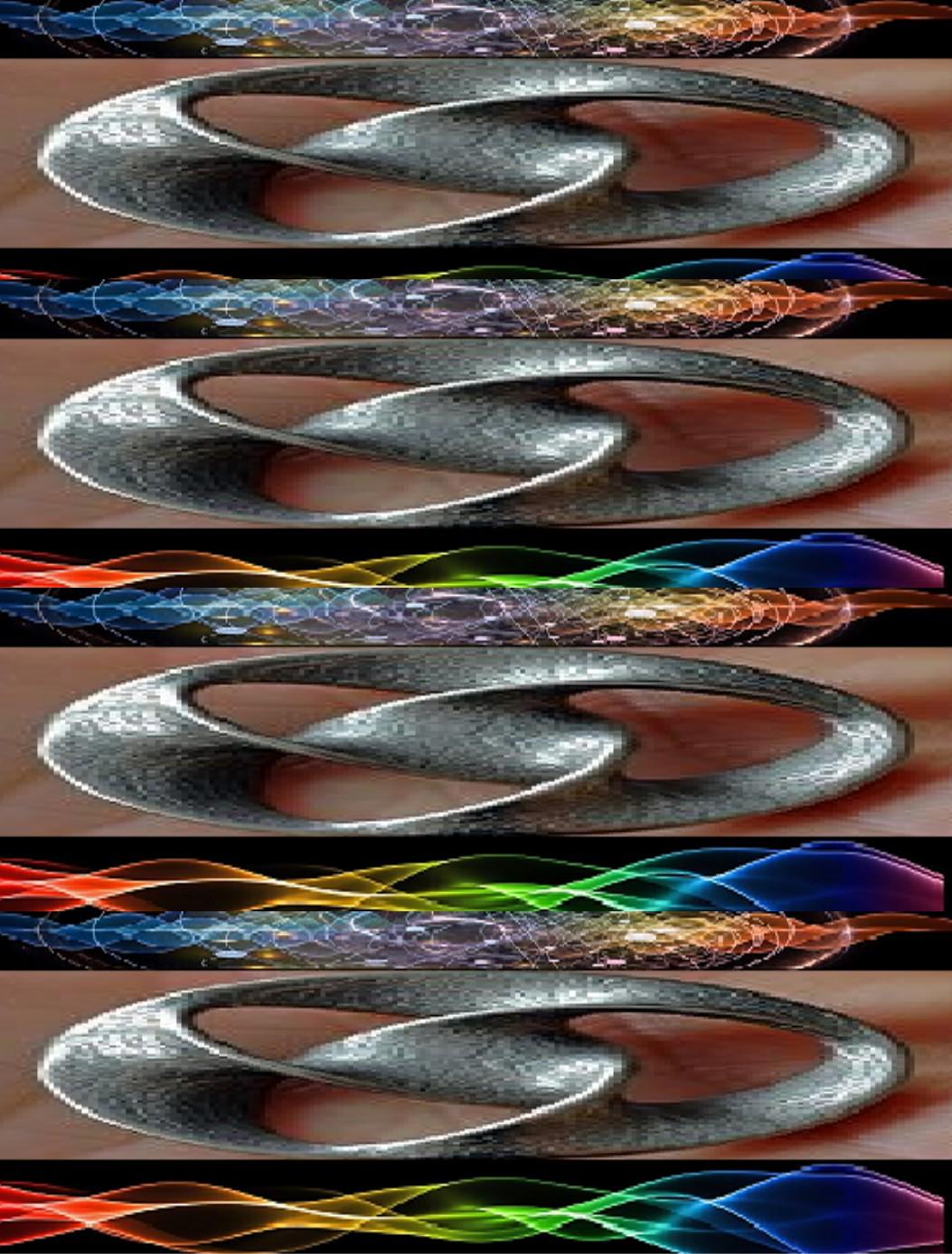
THE FOUNDATION OF THE UNIFIED WORLD

EVENTICS

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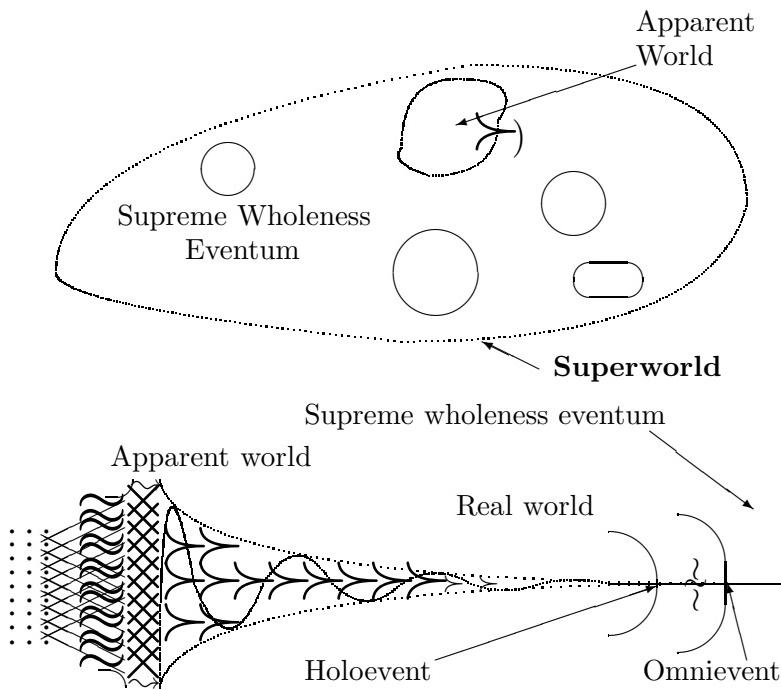


EXPANDED EDITION
MOHSEN FAKHARI



EVENTICS

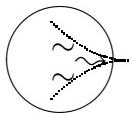
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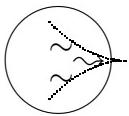
Eventics

Expanded Edition

The Foundation of the Unified World

Mohsen Fakhari

New Direction for Human, Lost in
Life, Social, History, Art, Math,
Sciense, Philosophy, Religion,
and Psychology, .i.e. lost in,
all Aspects of Human affair.



Eventics Press

Stanford, CA, U.S.A

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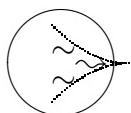
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To Humanity

Inspiration for New Beginning.
The foundation of Future

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Overture

Omar Khayyam (1048 – 1131 A.D.) gifted us his great world view and philosophy with his unique **Rubaiyat**.

*The Secret of the Universe is unknown to Thee and Me,
Its Wonder behind a Veil unseen by Thee and Me.
Some Talk past the Veil awhile of Me and Thee
As the Veil falls no more of Thee and Me
(all ends to nothing).*

*For in and out, above, about, below,
Tis nothing but a Magic Shadow—show,
Play'd in a Box whose Candle is the Sun,
Round which we Phantom Figures come and go.*

*Some think in deep in Ideology and Theology,
Some wonder about Uncertainty and Certainty,
the Crier from behind the Veil cries
Fools! the Way is Not This or That apart.*

*With Earth's first Clay They did the Last Man Knead,
And then of the Last Harvest sow'd the Seed:
Yea, the first Morning of Creation wrote
What the Last Dawn of Reckoning shall read.*

*The Moving Finger writes: and, having writ,
Moves on; nor all your Piety nor Wit
Shall lure it back to cancel half a Line,
Nor all thy Tears wash out a word of it.*

Preface

My curiosity about the events, occurring around me at a very young age, made me wonder and directed me to deepen my thought, within my capacity, in acquiring knowledge about these countless events (i.e., not countable and non-numerable 1, 2, 3, . . . and beyond Fractal). This curiosity in itself was an event, as well as those inter-related pleasant and unpleasant events that surrounded the entire world. And oh! What **Events!**

My motivation for writing this book, inspired from this curiosity, began when I was eleven. Although I have always had lots of respect for schools designed for professional training in fragmented world concepts, my primary focus has always been toward the independent studies in which I had an opportunity to search for wholeness.

Among other subjects, this book introduces ten (10) important items:

1. **Event** is the Subtle, and **Eventics** is coined here.
2. The **Nothingness**.
3. In math, in so-called Zero (0) equation, we have <Nothing>, <Empty>, <Blank> in the right hand side, that can take any unlimited value of Digital, Analog and Fractal numbers.
4. Numbers are not only convenient digits, based on our fingers, 1, 2, 3, . . . and naturally can be any Analog stream and include Fractal.
5. Surrounded by physical and non-physical duality of 2-eyes, 2-ears, 2-hands and 2-feet, good and bad,

right and wrong, mind and matter, 2-pole of + and -, and etc, adopt the universe of Oneness and that of beyond Two (2).

6. In Math, Complex Variables is expanded to many layers.
7. In Physics, highter derivatives than Accelaration, as introduced by Hoëne (Jozef Maria) **Wronski**.
8. Laws of Physics and Mechanics are statements to be that way, not as the law of nature.
9. Equality must include three different equalities: (**equal** = **quantity**); (**equal** \iff **quality**); and (**equal** || **value**)that is more than the others.
10. Regarding the universal events, there should be When-statement, instead of If-statement.

We live in Superworld (Omniwholeworld) in which physical, biological, psychological, mystical, religious, social and historical events are only **One** whole *event (reality)*, and in which all of these **Many** events occur within the context of our apparent worlds.

This volume is devoted to the introduction of **Eventics**, with the central thesis that the entire universe from past to future, from here to there, with all materials and non-materials, is only a single **event** synonymous to **reality**, which is governed by only one principle—**Nothingness (Holoevent, Omnievent)**.

This is a **Menu** about the totality of all of these events with a single source of:

Omnievent in Superworld,
Holoevent in real world, and
Nothingness in our apparent worlds.

It is a new Menu for a fundamental change in our values, perceptions, understandings, attitudes, thoughts and whatever we are associated with. This book in itself is an event, unfolded from the Holoevent, that advocates the holistic approach, in a broader sense, to all of these events, giving a proper weight to our position in the world in answering our curiosities. This edition suggests the fundamental **Recipes** for this Menu.

This is a new appreciation for human and his place in the universe: a meaning of existence, how our conceptual universe begins and how it ends—**Nothing, full of everything**. It eliminates the extrapolation and the exaggeration of the different fields of inquiries beyond their limits—physics cannot tackle the questions of religion, as religion cannot tackle the questions of physics. Each field such as physics can allow itself to express and conclude what issues of other field, such as religion, are belong to physics, but it cannot deal with real religious issues or eliminate them all together. It is only in Eventics that we can try to deal with the totality of all as **one whole**.

I hope this book as another event interests both professional and layman, both old and young of all cultures. No doubt many, especially the professional, would temporarily misunderstand and disagree with this book. For although I have studied and delved in most of these fields for many years, by no means am I a professional in any of them. But in any case, the patience and critiques of these

professionals as the event pieces of our fragmented world would benefit this book as well as the future development of this subject.

I know indeed that some individuals, and those of great name, too much prepossessed with certain prejudices, are unwilling to assent to this new principle. It is not my intention to detract from the reputation of these eminent individuals; I shall only lay before the reader such considerations as will enable him to pass an equitable judgment in this event. All men of different disciplines and of different backgrounds can participate in the exploration of **Eventics** and its principle.

I can understand the criticisms that will be levied against Eventics, but those who fight it offensively are insecure in their knowledge and are afraid to allow human to be free with this Menu in his hand.

Despite the shortness of the book, the work presumes a fair amount of patience on the part of the reader. In the interest of clearness, it appeared to me inevitable that I should repeat myself frequently, without paying attention to the elegance of the presentation. The book is primarily intended for all levels of individuals. It is the attitude of the reader which determines whether this book is easy or difficult.

The material here is beyond the range of an ordinary book or discussion. This book should be read again and again at various stages of a person's life, for it offers guidance at these different stages as it does to people with different cultures and attitudes. I believe this book puts in proper perspective the value of many excellent books and ideas gifted to us for the past 2500 years.

I have the great admirations for many great people

throughout the history, however, I would like to emphasize a few of the great people who were my idol to inspire me to write this book:

1. My Idol Poet and wise man is **Omar Khayyam**.
2. My Idol Philosophers are **Whitehead** and **Omar Khayyam**.
3. My Idol Mathematician is **Al-Khowarizmi** (Algorithm).
4. My Idol Physicists are **Leibniz**, **Hertz** and **A.A. Robb**.
5. My Idol for Mathematical work is Hoëne (Jozef Maria) **Wronski**.
6. My Great Visionary Artist is **Escher**.

Greeks took decisive step in applying mathematics. **Thales** (624–547 B.C.) was the first Greek mathematician, fathered Greek philosophy, learned the elements of Babylonian and Egyptian algebra and geometry, and discovered the science of geometry. The first group to offer a mathematical plan of nature was led by **Pythagorees** (585–500 B.C.). Historically, this is during the **Cyrus the Great** (580–529 B.C.) Persian Empire who gifted us with the **The First Declaration of Human Rights** when he crowned in the first day of spring of 539 B.C., that marks the start of Persian Calendar year, based on this important significant document in the history of mankind which reminds us who we were and who we want to be. The Persian culture is the dedication to ethical and moral

excellence which is based on three fundamental principles: **GOOD THOUGHTS, GOOD WORDS and GOOD DEEDS.**

With Greeks we had the first scientific beginning; with Galileo we had another beginning. **Eventics** is a new holistic beginning. May this book bring some one a few happy hours of suggestive thought!

May 24, 2017

Mohsen Fakhari

Epanded Edition, Stanford, CA, U.S.A

Part I

THE BACKGROUND

**1989 edition of
Eventics**

**Eventics Introduced
re-edited by Author**

Chapter 1

Introduction

Eventics is coined here that concerns, in the context of our apparent worlds, with **Events** of all kinds: physical, psychological, religious, mystical, social, historical, etc. It introduces the single **Holoevent** of *real* world and the sole **Omnievent** of the *Omniwholeworld* (superworld). It postulates that Event, synonymous with Reality, is the only entity responsible for the entire Omniwhole-world, the world that is governed by a single principle—the principle of Nothingness in our apparent world (Holoevent in real world, Omnievent in superworld).

The aim of the book is to give an introductory account of Eventics and to explore its principle concerning the events, and to furnish a systematic outline of more than what is now known as scientific and non-scientific knowledge. We are in a period of Eventical revolution—one in which the position and meaning of the scientific and non-scientific approaches are undergoing reappraisal.

In the *real* world and beyond that in the *superworld*, the dualism as the outcome of semantics is not invented

and there is no strict division between *subjective reality* and *objective reality*; there is only one omnireality—*Omnievent*, corresponding to the *Holoevent* of the *real world*. The physical universe and consciousness are mixed by fundamental Eventical order. The relation between *mind* and *matter* is not subjective or objective, but it is Eventics. We live in our apparent worlds with series of events of all kinds, embedded in superworld of a single omnievent. Our apparent worlds are worlds of semantics which includes **symbolism** and **language**, and in which everything is expressed in terms of its opposite, and nothing conveys any meaning without its opposite: existence is meaningless without non-existence, as is the realm of birth and death. It is only by avoiding such dual perceptions that we *may approach Holoevent*.

All around us what we see and what we do not see are events. Beyond the scope of our vision the unseen events exist. In ordinary language classification, these events range from microevents to macroevents, from subevents to superevents, which embody physical, psychological, religious, mystical, social, and historical events.

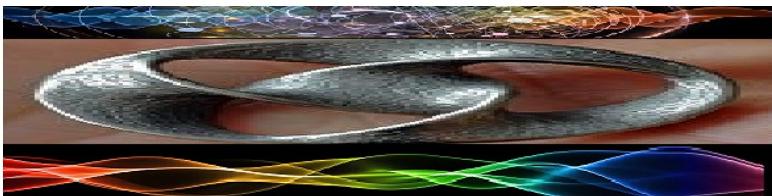
In history of science, source books are themselves events. The work of Herodotus discussing Greek “events” is itself an event. The works of Euclid, Archimedes and Apollonius are also events. Newton’s Principia is most certainly an “event”. The purpose of writing in political and social history is writing about human events.

The classical period of Greek culture, which lasted from about 600 B.C. to 300 B.C., during Persian Empire, was an event that affected everyone thereafter. This is usually marked as a scientific beginning. With Galileo and Newton and Leibniz we had another beginning. And

then, on 7 November 1919, Eddington *mistakenly!* reported the confirmation of the “General Theory of Relativity”, that made Einstein known to the public and famous. Einstein laid the foundations of relativity in 1905, and exposed the revolutionary implications of Plank’s quantum theory. The theory of relativity and the new quantum mechanics articulated by Bohr and Heisenberg in 1920s, necessitated a fundamental change in the aspirations of science.

Now, here with Eventics, we have a new holistic beginning that requires the efforts of many generations to fulfill (if possible) its requirements.

This book is intended for all levels of individuals of all ages. It is even beneficial to young children with as much as the child can comprehend. It is disservice to children to raise them with our apparent worlds concepts in order to readjust them to our standards for our convenience, without informing them about what we are doing to them. Before feeding children with our prejudices and getting them lost in the sea of our thinking, we should inform them, at the proper time, about our injections. This book informs everyone about our injections and prejudices.



Chapter 2

Superworld

Superworld (Omni-wholeworld) can be visualized as an infinitely extended foam-like medium containing an infinite number of worlds resembling the voids within the foam. Superworld is the ultimate real world having an *unified supreme wholeness medium* that omni-holistically encompasses all of our **apparent** (what appears) worlds.

This book with the new title, **Eventics**, concerns with a new topic that deals with the entire phenomena of foam-like superworld. That includes a new presentation of the interactions between our apparent worlds and the superworld.

This is a new **Menu** set forth for those who are interested in developing a new insight. This work will be of particular relevance to all those interested in philosophy, physics, psychology and research into the connection between *consciousness* and *matter*. It concerns the universe of *countless* dimensions (i.e., not countable and non-numerable 1, 2, . . . , even beyond Fractal dimensions), which embodies its **wholeness** and in which all

fragmented concepts, such as the following dual concepts, are only **one reality**. The example of these dual concepts are: parts vs. whole, being vs. becoming, known vs. unknown, order vs. randomness, enfolded vs. unfolding, implicate vs. explicate, appearance vs. reality, mind vs. matter, brain vs. mind, continuity vs. discontinuity, observer vs. observed, subject vs. object, symmetry vs. asymmetry, reversibility vs. irreversibility, determinate vs. indeterminate, particle vs. wave, time vs. timeless, space vs. spaceless and micro vs. macro, etc.

In Eventics, the notions of **whole** and of **holistic** refer to *omni-whole* and *omni-holistic*, **not** the hierarchical ones that are commonly used to describe many-layered psychological development with higher- and higher-level wholes. In hierarchical notion, the whole of any level becomes a part of the whole of the next level. However, here, the notion of whole refers to the highest transcendental whole beyond the human psychology.

The **superworld** is inseparable from all of these apparent worlds, whereas each of these apparent worlds is separated from the superworld by its own very existence.

The main medium of omni-wholeworld that shapes the entire superworld with enclosed apparent worlds is the *supreme wholeness medium* – the **Eventum** of Superworld. Superworld encompasses the apparent worlds in *holistic* system in which the parts necessarily become changed by their mutual association, hence, their whole becomes something different than just the sum of the parts (Figure 2.1).

In other words, superworld is not a collection (a sum) of the apparent worlds in which the parts remain individually unchanged whether they are isolated or to-

gether. Instead, the characteristics of superworld as a complex whole remain irreducible to the characteristics of the parts, and the whole becomes self-existent independent from the parts. Actually, the word '*health*' is based on the Anglo-Saxon word '*hale*' meaning '*whole*' and the word '*holy*' is based on the same root as '*whole*'.

That is, *it is healthy and holy to be whole*.

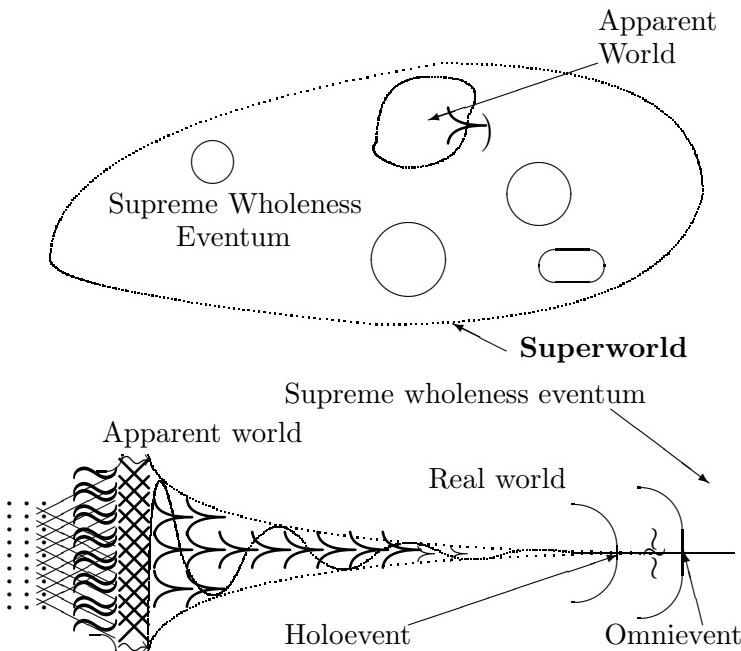


Figure 2.1: Superworld and apparent worlds

2.1 Foundation of Eventics

The foundation of Eventics is **Oneness**, **Wholeness** and **Nothingness** of a single **Reality / Event**. Our quest is to perceive this reality within the scope of our apparent worlds by the *window* of our vision. The looking through glass *window* has a very unique characteristics such that every point of the window is informed by and impressed by all events of all apparent worlds at all times occurring at all places. We have, however, tendency to have snapshot view of an event while we are looking through a glass window.

Included in our (apparent worlds) concept of reality is the definition of “**universal being**” in general, “**human being**” in particular, and the relation of the human being to the real supreme wholeness medium. Human being as a *para-holographic* piece of the universal being is associated with our apparent worlds and separated from the supreme wholeness medium by its own very existence. The term holographic is derived from the hologram in which the *sum* total of parts is contained in each part, whereas, para-holographic is *more than the sum*.

Human being as a phenomenon is a system within a universal context who is an inhabitant of all interrelated apparent worlds. In common language, he has a biological origin, plays a solid role, integrates and co-ordinates the biological, social and other apparent worlds concepts. The prime characteristics of the human being is the creation of a universe of **symbols** in thought and **language**. Human lives in a world not of *things* but of *symbols*. He creates, uses, dominates, and is dominated

by the universe of symbols. For example, a coin is a symbol for a certain amount of work done, which indicates how crude some of these symbols are. Symbolism, and human language in particular, is well distinguished from sub-human forms of behavior, such as the expressive song of birds. The system of symbols or the symbolic universe enables us to explain why language, science, art, and other cultural forms are able to gain autonomous existence transcending the personalities of their individual creators.

The convenient introduction of *Nouns* and *Verbs* in our language as an approximation of our perception of the world, is responsible for the apparent distinction between **Being** and **Becoming** (happening) that is introduced to us in the context of our apparent worlds (see Appendix B for description of some of the important words used in this book). The main role of modern physics has been to construct a bridge from *Being* to *Becoming*. In reality, *Being* and *Becoming* are only a single occurrence but in an *enfolded* and an *unfolding* context.

“**On**” is the present participle (a now-moment concept) of the Greek verb ‘*to be*’ (occurring). It means *Being* (a fixed, forever-lasting concept). Its literal meaning is the same as the Latin “**ens**”, from which the term ‘entity’ is derived. Hence “**on**” and “**entity**” are synonyms and represent both *Being* (a fix entity) in an *enfolded* context, and *Becoming* (an occurring entity) in an *unfolding* context. Here, “**on**” is used with its general meaning, not in the limited sense as in physics in which “anti-on” is introduced to account for other possible existence such as antiatom, antistars and anti-galaxies. Actually, “on” conveys a holographic representation of exis-

tence showing different aspects of the existence depending upon our way of viewing it from different directions.

Human, centering himself to communicate with the rest of the universe, limits himself with the conical view, vision, hearing, speaking and other sences. This leads to conical cross sections views of the universe, which was summerized by **Apollonius** as our conical apparent worlds where we live in, where the *Conical Cross Sections* due **Apollonius** (Hyperbola, Parabola and Ellipse), closely related to Science, religion and mysticism with some overlap, with their related mathematical descriptions (Hyperbolic, Parabolic and Elliptic) equaions.

The word “**thing**” is a highly generalized indication of any form of existence that is limited or determined by conditions. It goes back to various words that signify ‘event’, ‘action’, ‘object’, ‘condition’, ‘meeting’, and related words meaning ‘to determine’, ‘to settle’, to ‘time’, and perhaps had a original meaning of ‘*thing occurring*’ at a given time. For example, particle is not one ‘*thing*’ in its every day usage, it is successive unfoldments—*a series of events*.

The word “**reality**” comes from the Latin ‘*res*’ meaning ‘*thing*’, ‘*reality*’ and ‘*event*’.

In German, **Gestalt** is synonym for form or shape, and it also means a concrete ‘*entity*’ per se. The characteristics of perception are referred to the phenomenon of Gestalten. Since perception is “happenings in the brain”, then perception of these happenings must be “happenings” in another brain. Hence, we are involved in a continual regress. The important characteristics of perception are curvatures, multidimensionality, movements, groupings, shapes of all kinds, the various constancies,

melodies, speech, rhythm and etc.

In spite of the human creation of symbols, there is no *form* and *symbol* in supreme wholeness medium; and what is “**formless**” in supreme wholeness medium is “**nothingness**” (in broader sense) in *universal being*. The supreme wholeness medium is an unbroken whole in the *enfolded* or *implicate* (from the word “*implicit*”) order of all levels, including superimplicate orders. Our ordinary notions in our apparent worlds are in *unfolded* or *explicate* (from the “*explicit*”) orders that are abstracted as forms, derived from the deeper enfolded order. The enfolded order contains all unfolding orders that evolve into the forms that can be “*observed*” by us.

Order is described both in terms of structural arrangements and in terms of dynamic introduction of processes.

All implicates all, to the extent that ‘we ourselves’ are implicated together with ‘all that we see and think about.’ So, we are present everywhere and at all times, though only implicitly. The term implicate order as used here is more general than the implicate (holographic) order in physics, which according to **Bohm**, the equations of quantum mechanics describe that order. Here the *implicate order* includes the implicate order of mind and higher transpersonal realms.

The general description, i.e., *holonomy*, has to be expressed in all orders, in which all objects at all times are *folded together*. Every object is implicated together that only in certain special orders of description appears as *explicate*.

Escher well presented the universal orders from implicate to explicate orders by his great art-works.

In superworld, there *is* (*occurs, occurred*) only one single “entity” or “reality” from enfolded (*being*) order to unfolding (*becoming, happening*) order. This single “reality” of superworld is “Event” (*occurrence or happening*).

According to **Whitehead**, the realities of nature are the prehensions in nature—the *events* in nature. He introduced the word *prehension* to signify the essential unity of the *event* as one entity and not as an assemblage of parts. He referred to event as the ‘*actual entity*’ (Latin *res verae* meaning *true things*), which is both actual and potential; real and apparent; perishable and immortal; whole and part; a sequence of phases and a phaseless whole; subject and object; indeterminate and determinate; cause and effect; a *process* of becoming and an immobile, unchanging quantum; a continuous transition and discontinuous atomic succession; divisible and indivisible; extensive and inextensive; spaceless, spatial and beyond space; here, there and everywhere; timeless, temporal and beyond time; past, present and future; a crescence and a transcendence; private and social; and etc.

What human being allows as alternate realities are man-made sub-realities.

The term ‘**Eventon**’ with *omni-holon* order is introduced here as the building block of the supreme reality, to embrace the holistic meaning of the terms entity, being, becoming and happening as well as the meaning of the building blocks of Gestalt, double helix, electron, photon, neuron (the content of the brain), etc.

Nothing is left in the world but Event.

The word event from Latin *eventus* being the past

participle of *evenire* = *e* (from *ex*, out) + *venire* (to come) is in occurring-mode. The Greek word “*to holon*” (the whole) as used in psychology is an entity which, looking down, is whole, looking up, is part. Here, *omni-holon* is used to denote the highest whole with no parts connotated, (see appendix B).

2.2 Unconditional Equality

Reality and **Event** are synonyms and in some languages only one word is used to express both. Hence, *Reality is Event* and *Event is Reality*. This is an equality in any conceputal sense that normally the word *equal to* is used to express that equality with a mathematical symbol (=) as in $1 = 1$, $A = A$.

That is, when the subject of concern is reality:

The only unconditional assertion $A = A$ without any transformation, is:

$$\text{Reality} \quad = \quad \text{Event}$$

Event (A) is the fundamental entity when the concern is the **Reality (A)**. That is, *event* is the only *reality* in the entire domain (*eventum*) of superworld, from the supreme wholeness medium to the worlds of human being, namely, throughout the entire *Omni-wholeworld* (superworld).

Consequently:

$$\begin{array}{lcl} \text{HoloEvent} & = & \text{HoloReality} \\ \text{OmniEvent} & = & \text{OmniReality} \end{array}$$

HoloEvent is introduced here to signify the fact of *wholeness* and *nothingness* of a single happening that holistically encompasses all “occurrences” of universal being. That is, the holoevent, the fundamental entity of the world of universal being is superior to our constitutions of body and mind with all our sensations. The term “**real**” world is used here to refer to the world of universal being approaching the holoevent. HoloEvent (HoloReality) is obtained only when all conceivable point of view have been combined; or better to say, when all these point of view have *vanished*. The holoevent carries the *implicate order* of all levels including superimplicate orders, and allows the human with ultimate capability to see and experience a multi-dimensional matter-mind-others world.

The basic element (**Eventon**)—the building block—of the holoevent is **all-things—all-times—all-places—matter—mind—past—now—future—everytime—here—there—everywhere—others**.

The total law of the undefinable and immeasurable holoevent could never be known or specified or put into words. Rather, such a law has to necessarily be regarded as *implicit*. The unfolding explicit order of holoevent conceived in *real* world leads human to formulate the concept of *change* (the root of transport phenomena).

OmniEvent is introduced here to signify the formlessness (no space, no time and etc.) of a single grand occurrence that holistically is responsible for the entire Omniwholeworld—the *Eventica*.

Omnievent is the *eventon* of the supreme wholeness **Eventum** that is in enfolded implicate order and static, and signifies *no change*. This is the root of the **conserva-**

tion laws. All concepts, entities, etc., in universal being are the footprints of OmniEvent of supreme wholeness *eventum*, which are introduced in our apparent world via HoloEvent. OmniEvent contains all concepts and entities known and unknown to human being. OmniEvent embraces the container theory of space and time (*object*) such as here, there, material, past, present, future; the container theory of mind (*subject*) such as consciousness, mental, mind, spirit, soul, non-matter and etc.—it is the holder of objects, subjects and etc.

Another way to say it, OmniEvent is beyond space, time, and Others while still embracing them. Its basic element is *no* space, *no* time, and *no* Others—even *no* HoloEvent.

By a rough physical analogy, this event resembles the optical holography in which space and time at one stage is left out in *omnient*, and the desired temporal results are retrieved through a readout function of frequency information in *holoevent*, a notion of *space/time object* out of *no space, no time frequencies*.

The physical notion of “*frequency*” for event. In the physical realm, Grand Unified Theory reduces all the world’s phenomena to *two* types of particles interacting by *two* types of forces, and Super-Grand Unified Theory reduces everything to *one* particle and *one* force.

In Eventics, everything is only **one** *OmniEvent*.

What transmits “**out**” from the supreme wholeness *eventum* directionlessly is OmniReality. What is approached when the universal being comes “**in**” contact with this Supreme wholeness **Eventum** is HoloReality.

The term **Eventics** is introduced here as a new discipline concerning *events* ranging from OmniEvent to Holo-Event, and down to individual ordinary events (i.e., physical events, psychological events, political events, social events and etc.).

The aim of **Eventics** is to describe the law to which all events (happening) conform.

The word *concept* is used here in the broader sense to refer to all human experiences (cognitive, noncognitive) that normally has been divided into *concepts* and *percepts*, emphasizing both *subjective* and *objective* implications, and both quantitative and qualitative implications. Normally, “percept” represents the qualitative order and “concept” represents the quantitative order of ideas. “Concepts” are products of thought, imagination, and memory. Concept, is loosely, a collection of percepts. But, percept is not only an assemblage of sensations; a percept has reference to perception, to Gestalten in general and to sensation in particular, to the kind of awareness conveyed by the senses with no distinction between external, sensory, awareness, or awareness of conscious states—a *vision* (multidimensional, curvature, movement, shape, grouping, etc.), a *sound* (speech, rhythm, etc.), a *smell*. Perception of reality depends in large measure upon the culture in which one is raised.

One of our tasks is to elaborate on the unified *concept* of **holoevent** in the universal being medium. Holoevent as the asymptotic truth, is the light at the end of an “infinite” road of discovery, not within human grasp. This road ends to a tunnel of Holoevent-Ominevent leading to the Supreme Wholeness Eventum of **omnievent**. Our *concept* of Holoevent is the convergence of our knowledge

that is getting denser and denser until it drains away and disappears into Omnievent (analogous to the black hole in physics). The black hole is introduced in physics using light with its limiting speed as the means of observation. Where light cannot penetrate we have an “invisible” or “non-emitable” region (a hole). The means of approaching holoevent is the entire conceptual existence of our universe:

Woloevent:

**Where none of our conceptual existence
can penetrate, we reach *Holoevent*.**

An object is black if it absorbs all the light falling on it and emits none in return. An object is invisible if it does not affect light at all, but allows light rays to pass through it undisturbed, as in the case of a sheet of clear glass. A source is holoevent (or roughly speaking the **eventhole** analogous to *blackhole*) when it absorbs all concepts, entities and series of events falling on it and emits none in a holistic way in return. This source is inconceivable (analogous to invisible in the case of light), such that nothing in its original formless that is inside the closed-off region of supreme wholeness eventum can ever escape out into the apparent worlds.

Holoevent is the grand event horizon and can be referred to the *eventum hole* of superworld. We can only visualize this process in terms of the distant tunnel of holoevent-omnievent between the point of *nothingness* of apparent world (holoevent of real world) and the point of *formlessness* of omnievent of supreme-wholeness-eventum.

The Figure 2.2 helps to describe the general concept of eventum. At the point *A* we reach holoevent, the

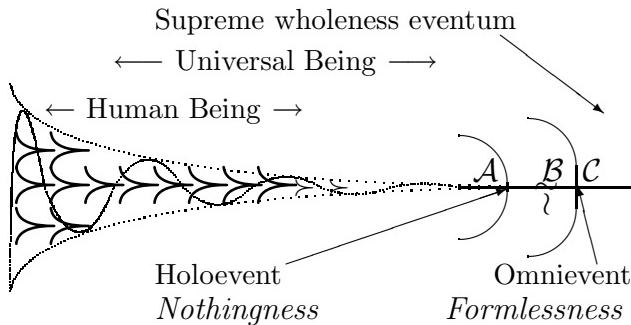


Figure 2.2: Events

ultimate reality of universal being, where our own very existence also disappears in the context of our reference frame. That point is the “**vanishing**” point, corresponding to the veil of **Omar Khayyam**, where all concepts including our own being end to “**Nothing**”, the **0** holder of everything. As long as we remain ourselves, we can never penetrate into the gate \mathcal{A} , pass through the process tunnel \mathcal{ABC} , and reach the ultimate unknowable omnient of supreme wholeness eventum. For this requires the capabilities, definitions, and concepts beyond and independent from our constitutions, thinking, or whatever we are associated with in the universal being.

Human is then facing the *ultimate unknowable*, which can never be reached as long as he remains in his present form and does not survive as a “**human**” by *Eventical* transfusion and transformation. The holoevent can be comprehended only by a “**being**” who survives the *Eventical* transfusion in making the two-ways or many-

ways trip.

Consequently, since human's attitude has always been to worship the unknowable, the **Omnievent** is his **ultimate unknowable** that he has always been and will ever be worshiping (the **Ultimate Unknown**), and in human's framework it is the “**Nothing**”, the **0** holder of everything.

Newton's definition of supreme God is given in General Scholium of his Principia. He held that absolute space and absolute time are constituted by the omniscience and omnipresence of God—as His ‘Sensorium’, i.e., the means whereby all times and places are simultaneously present to God. Newton's definition of supreme God crudely aims at partial property of omnievent.

At the source of the holoevent not only all *series of events*—conceptual, physical and etc., including our senses and the concept of our being—are melted together, but also the conceptual separations of time, space, material, consciousness, mind and etc. are not invented. At this source, **Hertz**'s idea of highly complex intellectual process and necessity of a “*pure natural science*”, and the idea of **Mach** and phenomenologists merge together. The holoevent holistically (rather than as a sum) contains phenomenism as well as all other conceivable physical events and non-conceivable events. The assumption of the reality as the “sum” of the entities is a very crude approximation that is used in our apparent worlds. As an example, the sum of the parts of a building does not give building, but building does contain parts.

Another example is in music, when the tones *c* and *g* are sounded together to produce a quality called Fifth. That quality is neither in the *c* nor the *g*, nor does it de-

pend on those particular notes. Any two tones with the ratio 2/3 will be recognized as Fifth no matter in what regime of the scale they may be played. The **Fractal** universe reveals some of the physical property of the nature. Fifthness is Gestalt, one of the approximate qualities of holoevent, which is different from either or any of its parts, and no amount of knowledge about the parts in isolation would ever give the remotest hint as to what Fifthness is like. This also indicates that there is a definite *uniqueness* in the holistic view of the real world, whereas *non-uniqueness* is introduced by the discrete view in the apparent worlds.

We are so trained, both by language, and by formal teaching and by the resulting convenience, to express our thoughts in terms of the **analysis** (*ana* meaning above, *lysis* meaning to loosen—to loosen from above), separation, and decoupling such that intellectually we tend to ignore the true unity of the factors. The unity factor exhibited in sense-awareness is retaining in itself the passage of nature.

These unity factors are the primary concrete elements of nature, which is called “**events**”. Everything is happening, and whenever and wherever something is happening, there is an “**event**”. The purpose of writing in political and social history is writing about human events.

Furthermore, “whenever and wherever” in themselves presuppose an event. Therefore, as a consequence of this, there is always “something” happening in everywhere, even in so-called empty space. Analogous to the material ether of the field of force, **Whitehead** introduced the concept of the *ether of events*, which is the **eventum** in

this book, which is the medium of all events and itself is constituent of the single whole **omnievent**.

In our Apparent Worlds

At the source of **holoevent**, nothing is ‘singled’ out, no direction is preferred, no ‘singled’ event is occurred. Therefore, at that source there is one whole event with full *symmetry* and *reversible* order. However, what appears in our apparent worlds in terms of series of events, is the symmetry-breaking, which brings about the *irreversible* time, the *irreversible* human being and etc. Hence, in apparent worlds the true nature of time is irreversible with direction from past to future, as observed by the irreversible observer. Each structure, each being has its own irreversible time order with a different life span, which is referred to as the “*time*”. The time measured by a *clock* is a kind of overall average of this time operator established by human as observers, which is meaningless for different individuals. There is also a “*time parameter*” introduced in science which is reversible inspired from the symmetry property of holoevent. Any actual experiment that we observe in an apparent world as an event, takes place in the broken symmetry of irreversible average time operator. As an example, in the **Schrödinger** cat experiment, there are two structures, the cat and the observer. Each of them *breaks the symmetry of time*, introducing the irreversible time operator by which the question and paradox of cat being alive or dead enters the debate.

We *transfer* everything from *out there* to our apparent worlds by the process of *transformation*. In doing so, we carry over an *unexplained* feature, which is basically an *unknown* element that we are obliged to worship, such as **God** in religion and the **speed of light** in relativity, where in both the **light**, the tool for sense of vision, is the superpower. By that, all other possible universal

sensations are inferior!

In the case of religion and mysticism, these unknowns appear in terms of Myths and Gods with conservation qualities (have everything, are everywhere and exist all the time). In the case of science, they appear in the form of constants or conservation “laws”. Mysticism gives a more general idea of transformation, but it is inexpressible in terms of the mathematical tools of humans.

However, science takes the rout of expressible method, but selects the simplest possible form of transformation that results in the introduction of constants in multiplication operations, such as assumed constant c in: $E = mc^2$ or c in ct of a metric.

As an example, physics, which deals with physical events, considers *matter event* in isolation and transfer it to our apparent world by simplest possible form of transformation, using the speed of light c as a constant for transformation (c stands for Celeritas, the Latin word meaning swiftness), in the form of man defined *material energy* E : $E = mc^2$ This equation is first appeared by several physicists in 19th century A.D. In this sense, the *material energy* E and the special kind of *mass* m are not just inter-convertible; they are intended to be and assumed to be the same thing with different units, using the constant speed of light for their unit adjustment. This was elequently stated by **Subrahmanyan Chandrasekhar** in 1930's A.D. who received Nobel Prize in 1983 A.D. He stated that “Energy is just another sort of mass”. The two sides of equation – the E and the m – do not actually have to slip across to *turn into* one another, rather a chunk of what we call mass actually is energy, similarly, a glowing or compressed amount of

energy actually is mass.

The man-made term Energy with several definitions is with us since Aristotle time. However, in modern scientific sense the term Energy **E** was defined in 1807 A.D. by **Thomas Young**. It was first introduced by **Leibniz** (1646-1716 A.D.) as “vis viva” of a body as its mass times the square of its speed (now we know to be twice the kinetic energy).

The man-made concept of mass **m** developed over centuries in various forms.

As for the symbol $=$, man tried to introduce a symbol for the concept of equality logic, as **Robert Recorde** by 1550 A.D. introduce a pair of long parallel lines of the same length \equiv for “**is equal to**”. However, the meaning of equility could not be for certain as the symbol \rightsquigarrow (gives, leads to), or \parallel (parralel plausible) have been considered, or visulized as tunnel from one concept to other concept. The point is what “*equal to*”, “*the same as*” or “*simillar to*” is. Do they mean the same thing? The symbol short $=$ is not a simple definition of a balance scale confirming that two items are nearely equal are the same thing, it is a device for directing attention to fresh realms.

It should be noted that human uses several different methods to justify an equation. For example, in this concept physics defines the material kinetics energy as the integral of *force* (another gost) over space. and in this case, if force defines to hold a material substance together, then it assumed to be very large compaired with its ordinary values and then the integral of assumed simplified equation of motion (Newtonian $f = ma$ assumption) requires very large velocity (to Einstein and others the largest ve-

locity was c), and so this integral leads to $E = mc^2$, with the assumption that no object can have speed to exceed the speed of light, and in the first order of approximation the factor of $1/2$ disappears, and so-called Einsteinian is really Newtonian. Also, it should be of no surprise that $E = mc^2$, not lower or higher power of c , because the integral of $f = ma$ will produce power of two (2) in velocity. Of course, the dimensional units analysis leads to this equality too. In addition, physics in all stages of development sees the world of open or closed surfaces with equations of power 2 derived from conic sections (hyperbolic, parabolic and elliptic). That is, the power 2 in the second derivative (2) in Equation of Motion, the second (2) power of the surface definition, the kinetic energy of $E = 1/2mv^2$, the energy of $E = mc^2$, the second derivative 2 and power 2 in geodesic concept in Relativity, and power 2 in Pythagoras theorem $C^2 = A^2 + B^2$ are all related and driven from the same world view.

Energy:

In the 19th century, Energy became a unifying principle in the construction of three new Sciences: **thermodynamics, quantitative chemistry and electromagnetism**.

Energy E is defined to be the *integral* of Equation of Motion over *Space*.

In the 20th century Energy again played basic role in the relativity theory of Einstein's equation $E = m c^2$, and in Quantum mechanics of Plank's equation $E = hV$, a constant multiple of its frequencies in subatomic universe.

In classical mechanics, the kinetic energy of a material

point of mass m being the integral of equation of motion over space, is

$$E = 1/2 m v^2$$

In Relativity, Einstein used the classical Cartesian Co-ordinate system of classical Mechanics of Newtonian for his new theory. It is very inconsistant. He used classical definition of the Kinetic Energy of a material point of m (particle-like) for a system-like, and used the integral of equation of motion (what motion, motion in space-time?) over space (what happend to space-time):

$$E = \frac{1}{\sqrt{1 - v^2/c^2}} mc^2 = mc^2 + 1/2mv^2 + 3/8mv^4/c^2 + \dots$$

or to the first order of magnitudte

$$E = mc^2$$

Momentum:

Momentum is the *integral* of Equation of Motion over *Time*. In classical Mechanics:

$$\textbf{Momentum} = m v$$

In Quantum mechanics of Plank's equation:

$$E = h \nu$$

i.e. a constant multiple of its frequencies in subatomic universe.

The process of transformation in above classical and present science is a special case of the *operational technique (arithmetical and functional)* in which only the *multiplication* operation of the arithmetical operation is utilized.

Chapter 3

Events

Primitive human, thrown into the world that he did not understand, found soon that his comfort, his well-being, and even his life were jeopardized by his want of understanding. That is, in reaching the understanding of *real* world by approaching the holoevent his very existence would disappear.

Consequently, the first reaction of man to unfriendly surroundings was to project his own human motives and passions on to the inanimate objects around him: He peopled his world with *spirits* and *demons*, with *gods* (unknowns) great and small until all nature was a collection of animated personalities; as Thales maintained:

‘all things were full of gods.’

Historically, man has been through the following three stages:

1. First stage: Animism, which was ended when Copernicus showed the motion of the earth.
2. Second stage: Metaphysics.

3. Third stage: The positive stage, when **Comte** (1798–1857) expressed:
“nothing is left in the world but happening (**event**).”

All around us, what we see and what we do not see, are events. We are embedded in our apparent worlds with surroundings constituted by a chain of conceptual, apparent and non-apparent occurrences. The chain of *events* imprints patterns in our beings, referred to as the limited sensations, and accommodates limited abilities for us to judge these sensations.

In history of science, source books are themselves events. The work of Herodotus discussing Greek “events” is itself an event. The works of Euclid, Archimedes and Apollonius are themselves also events. Newton’s *Principia* is most certainly an “event”. The purpose of writing in political and social history is writing about human events.

As long as we are embedded in our apparent worlds, there is no ultimate source of knowledge. Every source, every suggestion, is welcomed, and every suggestion is open to critical examination:

Neither observation nor reason are authorities.

What is the true shape of a lump of clay? Its shape is whatever it is shaped into. Intellectual intuition and imagination are most important, but they are not reliable.

Our apparent mode of reality has its limits. For example, physics can make only statements about strictly limited relations that are only valid within the framework of these limitations.

Classifying and organizing the world are human activities. What we can observe of reality is our own organization of it. We should give up the idea of an ultimate source of knowledge within the framework of our apparent worlds, and admit that all knowledge is human—mixed with our *errors*, our *prejudice*, our *dreams*, and our *hopes*. Each culture shapes apparent reality for the individuals born into it. We should not say the theory or theoretical concept is true or false, we should say it is **convenient** or **inconvenient**, useful or not.

We may, at the very most, only suppose that our Gestalten in general and sensations in particular are truly complete with no limitations, and correspond to the true fundamental entity of the omniwholeworld (super-world). However, if this is true and we are only supposing it without being able to detect or recognize it, then we have insufficient and limited Gestalten and sensations.

The foregoing statement implies that the real world of holoevent may contain a system of Gestalten and sensations that embraces ours, or it may consist of some entities different from our sensations. As a result, our incomplete senses with their uncertain capacities and definite limitations misleadingly influence us in the development of the concepts concerning the real world. Consequently:

Since our senses implies limitations, the unlimited senses required to investigate the real world must be different from our limited senses.

The real world with its single **holoevent** communicates with human either with human's conceptual senses or through an entirely different set-up. In any case, the *enfolded* world of a single occurrence of **omnievent**

at supreme wholeness eventum unfolds in *real* world which contains a check and balance field of **holoevent** with cross-intersecting communication paths, such that at any communication point (tangent point) with apparent worlds the specific local check and balance is satisfied. (See Figure 3.1).

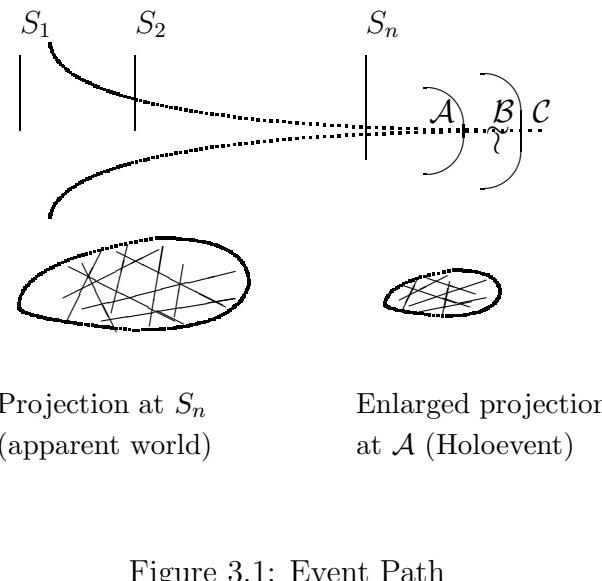


Figure 3.1: Event Path

That is, human unaware of the inner quality of holoevent of real world, satisfies the check and balance within himself and in communicating with neighboring occurrences while being in concurrence with the check and balance of holoevent. What we do could be not in the same pattern of occurrences of real world. However, it satisfies the **timeless** (*forever*, without past, present and future)

conditions of holoevent and omnievent. Even, what we refer to as the accidental occurrences are part of the one time occurrence of the omnievent. But the artificial entities in our framework leads us to hold the confusing (accidental) perceptions.

Therefore, each individual while he enjoys the check and balance of his personal theory, concurs with the check and balance of the entire group. These check and balance processes resemble the intersecting paths, analogous to the balance of a barn full of hay with the crossings of straws. They serve a single **holoevent** in the *real* world stage and represent the **series of events** occurring in our apparent worlds. These patterns of series of events, extended locally, conform with the system of real world of holoevent, analogous to a plane tangent to a general surface. The series of events that seems to us as movement are all present at the same time. These events implicate a series of one form of present (one degree of enfoldment) related to another form of present (a different degree of enfoldment), and they explicate different degrees of unfoldment that are all unfolding together at the same time.

In regard to **Newton's** observation of a falling apple: at the level of holoevent the occurrences of a hanging apple, a falling apple, a rolling apple and a stilled apple each of which is a concurrence of different sets of series of events, represents a *timeless, spaceless* and so forth, or in deeper sense, a *formless* entity as a *single holistic* occurrence.

In ordinary concepts: the hanging apple implies a physical interaction with the tree predominated by the physiological process; and a falling apple represents a

physical event (Newton's observation). What happens in our brain in observing the apple is **psychological event** which could be physiological event if we have knowledge of the brain.

At the level of holoevent, and in reference to our framework, the events of looking at a table at this moment and the event of flashing of sky occurring millions of years ago, or what will be happening during the next million of years to come, are lumped together with no demarcation concept. That is, at this level, the two concepts of **now-forever-moment** and **here-there-wherever-place** are melted together. However, our ordinary concepts make a distinction between these events and distinguish them by a series of separate events.

Events occur (*exist*) at different levels: Microscopic events (such as chemical changes); Ecological events (such as the sun's rising); Astronomical events (such as the expansion of the universe). Events are embedded in and entangled with other events. Events are pertinent to objects and to changes (transports) defined over objects. *Objects* and *transport* phenomena are two different aspects of an *event*. Some properties of objects left invariant under certain transformations. As Heraclitus maintained, the world is the totality of events and not of things. We should not think in terms of a set of separate objects as basis, instead, we should work with **event** where we have a structure, in which the **verb** has a primary function. This requires an introduction of new mode of language. **Bohm** introduced *rheomode* (*rheo* is from a Greek *verb* meaning *to flow*). In Eventics, **occurring-mode** is introduced for this mode of language.

The fundamental entity is *event, becoming* (a process of manifestation from event to a series of events) to human worlds by unfoldment.

Therefore, the human task is to make inquiry on **becoming** by developing the *science of becoming, mathematics of becoming, philosophy of becoming, psychology of becoming and etc.*

The *real* world **holoevent** is inconceivable by our structure. We are inhibited in apparent worlds of our traditions that created our way of existence with all conventional entities such as time, space, eating habit, living, dieting and so forth, such that we can **never** adopt a complete revision to our system. For this adoption implies the total destruction of our concept of existence. In other words, the mutual interactions between man and environment do occur, leaving him very limited choice of alteration, i.e., he is so bounded by his inherited apparent worlds that it is not possible for him to release himself from it by any action and still be able to survive. **This confirms that “things become out of control of the initiators”.**

Holoevent contains all events of our apparent worlds, by being a gate to the mode of *nothingness* while conforming to the mode of *formlessness* (i.e., timeless, spaceless and etc.) of omnient. That is, all series of events in our apparent world are created in our frame of existence have the sole source of holoevent. It is the essential character of *holoevent* that enables us, in our apparent worlds, to foretell and predict (in reference to our framework) the occurrences of the events. Hence, we can even predict so called surprises, and eventually, by advancement of our knowledge, be able to predict more and more happen-

ings, though “the ultimate we” can never comprehend the holoevent entirely.

The series of events in our apparent worlds, at one hand, conform locally with holoevent when all series are viewed as a whole. On the other hand, they construct a pattern convenient to our constitutions, which is conceivable by our knowledge.

We proceed with the process of check and balance of our senses continuously until we satisfy ourselves. We *confirm* self-consistent definitions while we *conform* with starting definitions. Definitions are selected in advance to produce precisely the desired conclusion. We make progress by this effort, however our progress is limited by the capacity of our conceptual senses. We view the world and introduce new theories insuring the ease of our senses. Since we dislike uneasiness for our senses, we introduce the rules more comfortable to them. And to achieve this goal we look for **simplicity**.

The search for “**truth**” is a never ending *quest*, yet we pledge ourselves to seek it. The compatibility of all man’s rationalities is due to the circumstance that it is the human being who is making the constructions of so called realities, and who provides the coherent consistency that run through all of them. The comprehensibility of our universe is not the so-called “greatest miracle of universe,” because our own works would be comprehensible to us. Nature does not force us to choose from all possible operational definitions the ones that lead to the simplest so-called “laws” of nature, but in practice we commit ourselves, often unconsciously, to this maxim of **simplicity**. And we refer to everything as being simple.

Our concepts are developed by a rather complicated

process of interaction of different senses of the individuals as well as the historical accumulation of conceptual senses of all men before us. We present descriptions of the occurrences and definitions in our conceivable ways and invent explanations by our standards that are non-contradictory to our sensations. Nevertheless, as the consequence of the the property of the holoevent, it is possible for a concept to be ‘consistent’ with holoevent, or to be ‘effective’ in aiding us in approaching the holoevent, though a different system of senses is required to achieve this triumph.

We are surrounded and influenced by our concepts and definitions such as *space*, *time*, *velocity* and *acceleration* such that they appear quite natural and obvious to us. The concepts that appears inconsistent with our senses would be considered mysterious, until, with the expansion of our knowledge, a new approach is developed to remove the inconsistencies. The new view continues to hold until another contradiction is detected when the same process is repeated again.

In other words, any revolution in our behavior adjusts itself in the course of time to what is suitable to our apparent worlds. Therefore, it is possible that the new ideas, introducing a way for making our concepts consistent with our senses, direct us into a wrong path. In any case, no man under any circumstances can ever free himself from the historical experience and prejudice of all generations of man. As a result, he can never propose a right path for certain as opposed to what it seems to him as being a wrong path.

The only path that should be detected to be wrong is that with a structure of concepts and

state of affairs that *dictates absolute ideas and rules.*

The nuts and bolts of the world structure, seemingly rigid, undergo the elastic and plastic behaviors in the world that is conceptually comprised of *elastic*, *plastic* and *fluid* entities as described in reology. This is, in particular, witnessed in social systems and unsuccessful outcome of extremists who try to control the course of nature and the life of the people.

The series of events, responsible for the changes and the diverse world of our experiences and prejudices, are merely part of the convenient, locally balanced, system of our perceptions.

In the Parmenides system there is the supposition of entity behind apparent change, where there is no need for law because there is no change to be regulated. In **Eventics**, this entity corresponds to the *enfolded* order of the *holoevent* of real world and, in a deeper sense, the *omnievent* of omniwholeworld (superworld).

The Parmenides philosophy represents the limit of the search for explanation. It is a limit which can never be reached by science, because science hopes to explain our experiences and prejudices. In Eventics, one of our tasks is to search for an explanation of apparent worlds consisting of the series of events. This field encompasses the entire spectrum of scientific and non-scientific procedures to describe the apparent world at its ultimate limit.

Heraclitus famous saying: “you cannot step into the same river twice—because in the interval between steps the river flows by and so changes” belongs to our apparent worlds consisting of the series of events, as the unfolding orders of holoevent, and it has no ground in real world

with holoevent, as well as in omniwholeworld with omnient.

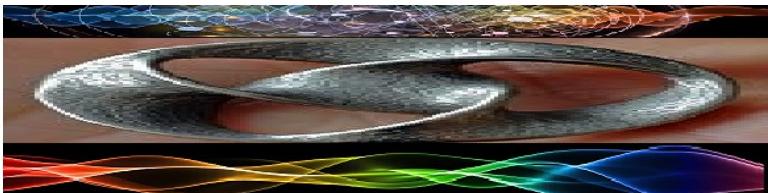
The man-made standards are so rigid that it is impractical to counterbalance them without paying the balancing price. As a result, man suffers for those things that he is not in favor. Consequently, it is up to man as a whole to set standards in making life pleasant or miserable for all, while complying with the real world. He can optimize his effort in achieving enjoyment, suffering, or any quality he wants to be associated with and be accustomed to. He can establish his standards and control it for the benefit of human being while still conforming to *holoevent*. He can follow the direction and constitution dictated by holoevent and still have any workable set of concepts, standards, and existence definitions. At one extreme, we could have been people trained by concepts of tradition to enjoy the hard punishment at every instant or suffer from the pleasant moments of our lives, in reference to our present standards. We could have, for example, disliked freedom and loved dictatorship, which has been a concept imposed by some nations. That is why we witness many odd situations in the history of man.

At holoevent, the word “*if*” has no meaning so that the statement of ‘if I drop myself under an automobile and get hurt or killed, I will change the pattern of my life’ is meaningless. For when a person really means to take a certain action, then his behavioral capacity in response to the rest of the world is already and previously established. That is, he is not doing it as a result of the making this “*if*” statement. Therefore, we should realize that the series of events constructed in our apparent worlds can-

not arbitrarily be altered to contradict the real world of holoevent. Hence, within our apparent world and using ordinary language, we should always replace “*if*” with “*when*” in our statement.

The *holistic system* of occurrences in our apparent worlds is within the scope and under the control of holoevent. However, our paths complying with our concepts in our apparent worlds, based on the separation of events, might be wrong as being a self-satisfied circular operation in our apparent worlds, while being non-contradictory to holoevent. Then our action in apparent worlds will not alter anything in real world, and cannot dictate anything to holoevent that already occurred in reference to our framework.

Our apparent limited **free will** is a self-imposed tolerance for perceiving real world in approaching the holoevent. These presentations can be argued by introducing the word “*if*”, which has no meaning in the *real* world.



Chapter 4

Eventics Principle

In **Eventics**, there is a single starting point for *science*, *philosophy*, *psychology* and *etc.* Whereas, the development of concepts at an ordinary level begins with a naive picture of the world—the *apparent world*. Our concepts at the ordinary level of the apparent world (level \mathcal{A}), ultimately reach the scientific order (level \mathcal{B}), and approach the **holoevent** of the real world (level \mathcal{C}).

When our concepts at the ultimate level of understanding reach the limit of our contact with the real world, they end to something inconceivable by human, i.e., in human standard of notation they end to “**nothing**”. That is, in accordance with our standard of notation, all our conventional concepts are our impressions of processes that are eventually perceived to be dying out, and every concept ends to “*Nothing*”.

This is analogous to a wave in the ocean that its motion does not carry real material, but a process is moving

that eventually to man ends to nothing at the shore.

This description is the foundation of formulation of the world system that constitutes the apparent worlds of man with ultimate knowledge as it was realized by **Omar Khayyam** in the 12th century A.D.:

*The Secret of the Universe is unknown to Thee and Me,
Its Wonder behind a Veil unseen by Thee and Me.
Some Talk past the Veil awhile of Me and Thee
As the Veil falls no more of Thee and Me
(all ends to Nothing) .*

Literal: The secrets eternal neither you know nor I And answers to the riddle neither you know nor I Behind the veil there is much talk about me and You When the veil falls, neither you remain nor I

Meaning: In vain we scream, in vain shout And try our best to find out And when its end of our route Whats left is simply Naught.

St. Thomas Aquinas (1225-1274 A.D.) maintained that it was logically possible for the universe to have been created by God but out of *nothing*, and yet to have existed from all eternity as Aristotle believed. Temple Thurston in his 1909 book, *The City of Beautiful Nonsense*, stated this clearly:

“Everything in this world is nonsense. The crown is nothing, the ring is nothing, too. Each would mean nothing but nonsense and empty foolishness except to the eyes which behold the symbolism behind them. Yet they, because of their meaning, dominate the world.”

Also, there is Buddhist concept of Nirvana as: “Attaining salvation by merging into the void of eternity

4.1 Foundation of Eventics Principle

The following constitutes the Eventics Principle that will be expanded in later section to deal with **Nothingness** and to formulate the Principle of Nothingness:

1. **Nothingness** of *apparent worlds*, in conformity with
2. **Holoevent** of *real world*, and
3. **Formlessness** or **Omnievent** of *superworld*.

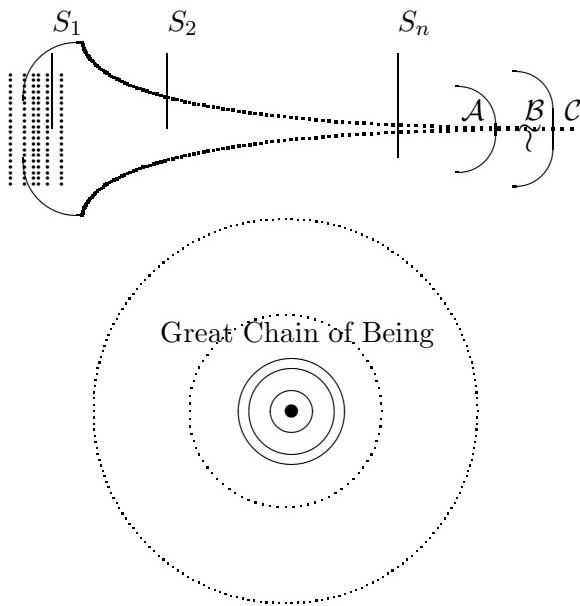
This is the **Eventical** foundation of entire omniwhole-world (superworld).

The Part II of this introductory book of **Eventics** marks the beginning of the development of the complex formulations of our *apparent worlds*. In fact, The **Principle of Nothingness** of *apparent world* dealing with the apparent worlds of human to date, should be the start of the book of **Eventics**. The **Principle of Nothingness** of *apparent world* will be explored in this book, which introduce the foundation of all aspects of human inquiries.

The interaction of *apparent world* with the *real world* at the gate of the *holoevent* created a class of sensations and the order of understanding that causes the holoevent to become grasped by the *human with ultimate knowledge* as a bundle of wave-like events.

This bundle of events similar to divergent waves collapses like a wake when viewed by our systems of *conventions* and *simplicity*. This is analogous to the occurrence of shock waves caused by the dispersion in media (*material* and *geometry* dispersions).

In this case, the limited orders (*quantity and quality*) of our thinking and matter tends to *material dispersion*. And the inevitable introduction of a wider domain of our existence than the point of *nothingness* brings about the *geometry dispersion*. At this stage we perceive the world as a combination of the individual *events*, and in common language, the *entities* and the *objects*.



Cross section at S_1 (apparent world)

Figure 4.1: Great Chain of Being

The so-called Great Chain of Being described by **Wilber** is a cross-section of this funnel-like medium, which presents the farther apart fields of inquiries as the

cross-section is introduced farther away from the point of *nothingness*. Conversely, the closer cross-section to the point of the holoevent indicates the more convergence of different fields of inquiries introduced within our apparent worlds.

The process of developing a concept is an occurrence interconnected to other activities of all humen, and their communications with their environments. Human assumes the methods of investigations and tries to describe the pre-assumed methods. He identifies a favorable entity and expresses it in terms of other entities that, he feels, are essential to him. Therefore, the whole process is a self-balanced *closed-loop*, independent, but within the scope of the real world of the holoevent.

For example, the development of several languages such as English, French and etc., is a self-balanced and self-satisfied idea that several equally binding original conventions represent a self-contained and satisfactory means of communication of ideas within a group of men with a pre-established extant of communication. Similarly, by an ingenious cyclic device, physics secures for itself a self-contained domain for study with no loose ends projecting into the unknown.

By recognizing the above description without any more expectation, man can generate concepts in any subject that he is interested in, and can express the created entities in terms of other appealing items or concepts such that he can benefit from these concepts. This can include the concepts in physics, psychology, and social problems, as well as the concepts of the separation of these fields.

Based On this, he adopts the approximation approach in viewing the world and generates concepts within his

apparent worlds by the following method.

By trial and error and through check and balance of all senses, man imagines his abilities in the approximate orders, and modifies his imaginations by a rather involved iterative process. Because of the **complexity** of this process man starts his effort by developing a compelling tendency toward rational **simplicity**.

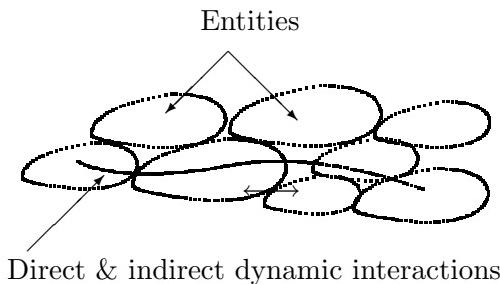


Figure 4.2: Entities Interactions

The continuum **eventum** of the real world at holo-event with the characteristics inherited from omnient, is approximated in our apparent world by a series of distinct entities in a discrete order suitable to our frame of existence. These isolated artificial entities are supposed to interact with each other in a certain way within the scope of our abilities. These interactions may occur between the closely related entities or between all entities by a very **complex orders**, analogous to two-body and many-body problems (see Figure 4.2).

We advocate the concept of discretization of the field of study about the world, in terms of the understandings of *ourselves*, the (outside, inside) *worlds*, and our rela-

tions to the (outside, inside) *worlds*. Each of these fields is further discretized to deal with the particular aspect of our understanding. In the organization of knowledge, the world is divided into *domains* of experiences. Domains fall into larger groupings called *realms*. Some domains bear a sequential relationship to each other, whenever a number of definite statements can be made about their relationships. In each of these domains certain items appear.

Descartes and **Comte** showed us how the Renaissance viewpoint organized knowledge. It separated objective and subjective perceptions and divided the objective into such specialties as physics, chemistry, biology, and sociology, which lead to separate departments in educational systems.

On the same basis, we express our thoughts in terms of the concepts of philosophy, psychology, physics, religion and etc. We think of them in terms of matter and mind, and by the world of **within**, **without** and **interactive** ones.

Physics at one extreme adopts the materialistic view of matter and works with physical world. Religion and mysticism at the other extreme adopts the spiritualistic view of mind and deals with man from within. Each realm has a special organization of sub-reality which is necessary to make the data from it lawful.

For example, in the domain of mechanics we are dealing with a limited number of physical entities, such as “*mass*”, “*position*”, “*velocity*”, and “*acceleration*”, whereas in the domain of thermodynamics, we deal with a much larger number of interacting entities, such as “*pressure*”, “*temperature*”, “*free energy*” and “*entropy*”.

These fields as the separate concepts could not provide a complete description of the real world. Only the field that encompasses all fields of inquiries can acknowledge an effort toward the understanding of the real world of holoevent.

Here, a systematic account of our approximation method of inquiry adopted in our apparent worlds will be given to provide a deeper insight of existing concepts, and to aid the extension of concepts in our apparent worlds. Extending background in this systematic approach can direct us towards the discovery of non-discrete (concrete) concept of the holoevent. In this regard, the extension of the *holistic system theory* at every stage of discretization, as well as the broader *para-holographic* view of the world are prerequisite for achieving this goal.

By convention, man adopted the approximation approach to **discretize** the *universe* in terms of the *distinct entities* that seemed important to him in reference to his work. He made use of this procedure in a limited sense to satisfy certain desires and introduced the basic entities such as *matter* and *mind*, *space* and *time*; and separate fields of **physics**, **psychology** and etc. As man proceeded, he improved his approach to the point that he made attempts to **unify** these elements, and tried to weave the significant elements into a coherent and *natural whole*. However, this man-made unification of the elements should not be confused with the real original *unity of the holoevent*.

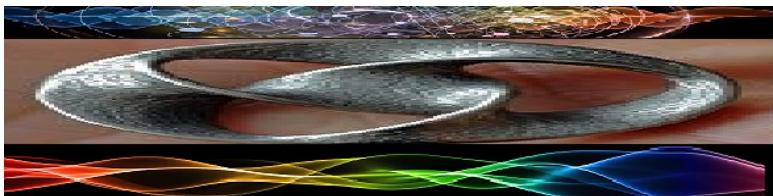
The holoevent of the real world **eventum** of a continuous unified medium with a lumped occurrence cannot be perceived by our limited senses, intuition, and whatever we are associated with. Its description by our senses

becomes so contradictory that we can only accept it outside of the region of our senses and intuition.

The unified concept (in the ultimate sense), of our apparent world is influenced by our sensations and intellect, and by the nature of the separation of our senses, such that it cannot be presented by a continuous *continuum*.

Consequently, the man-made unified apparent world medium is a non-continuous, non-differentiable, non-smooth medium that includes jump, singularity and etc. This includes undifferentiable made known by **Canter, von Koch** and **Pino**(1900 A.D.) as “*Monster*”, out of which “*Chaos*” is developed in 1980’s and so “*Fractal*” mathematics.

In Summary, this artificial medium of man-made unified apparent world consists of a conglomerate of bits of different entities that are *unfolded* from a single *enfolded holoevent* of the real world of **Eventum**.



Chapter 5

Apparent Worlds

5.1 Universal Being and Human Being

An apparent world is analogous to a barn full of hay in which the crossing straws represent crossing paths with intersecting points of events. Human being is a natural entity—an event. Human is an inhabitant of his apparent worlds. As a biological organism (biological event), human *creates*, uses, dominates, and is dominated by the worlds of *symbols*. Human creates his own worlds, that is called *human cultures*. Two factors that are closely related to each other are involved in this creation: *symbolic* systems including languages, and formation of *concepts*. Human worlds of symbols within his apparent worlds consist of physical phenomenon of symbolism, as well as the mental phenomenon of symbolism that includes the conscious symbolism of thoughts, values, cultures and experiences. His symbolic worlds are described in terms of

the aesthetic, scientific, ethical and religious values.

Of course, the concept of symbolism is far broader than that of language, words and in fact the symbolic universe becomes, so to speak, more clever than human, its creator. Language is a highly-developed form of symbolism.

Hertz said: “We make inner fictions or symbols of outward objects, and these symbols are so constituted that the necessary logical consequences of the images are always images of the necessary natural consequences of the imaged objects”, “We form for ourselves images (internal picture) or symbols of external objects; and the form which we give them is such that the necessary consequents of the images in thought are always the images of the necessary consequents in nature of the things pictured”.

Human symbolizes in his apparent worlds the pieces of the holoevent which he hopes to correspond to the real course of the holoevent. But again, he is committed to the circularity assertion as clearly stated by **Hertz**:

“the consequences of images will be
the images of consequences.”

In common language, the word anthropology (derived from Greek *anthropos* meaning man) is used as the science pertaining to man. Anthropology is the scientific study of: origin (*genesis*), of physical, social, cultural development and behavior of human, which includes humanities, linguistics (language), and psychology.

The human-created symbolic universe depends on categories that are universally human, and depends on categories developed historically within a certain civilization. This depends on the symbolic framework of the

respective cultures or even the different frames of reference within a given culture:

What is labeled as heroism in the frame of reference
to war is penalized as murder in civilian life.

As a consequence of the rise of the symbolic knowledge, there arose a **split** in the universe between the *knower* and the *known*, the *thinker* and *thought*; the *subject* and *object*. Our innermost conscious as knower escapes its own grasp and remains as the unknown, unshown, and ungraspable, much as your hand can grasp numerous objects but never itself and our *eye can see the world but not itself*. **Escher** by his arts demonstrated several examples of these entanglements between observer and observed—a picture of a man who contains himself; a gallery which contains itself; a twon which contains itself.

The apparent world we know is constructed in order to see itself. But to do so, it must first cut itself up into at least one state which sees, and at least one other state which is seen. However, to see itself as an object, it must act so as to make itself distinct from, and therefore false to, itself. Just as a *knife cannot cut itself*, the universe cannot totally see itself as an object without totally mutilating itself. See **Escher**'s art-work of a hand drawing a hand that draws a hand, a never ending regress.

Eddington said: Nature that provides the knowledge of one-half of the world will ensure ignorance of the other half.

Eventics says: Nature that provides the apparent knowledge of apparent world ensures the ignorance of the real world. Inside of our sphere and Need **Mobius** round trip.

Reality lies “beyond” the shadowy (apparent) symbols. Not realizing this, human becomes lost in his world of abstractions, thinking only of symbols about symbols about symbols about thing, and reality never gets in at all.

In one mode of knowing, our world of the sense and intellect is characterized by dualism, symbolic, conventional, apparent, intellectual, detention, thought, and out-seeing. In other mode of knowing, our world of intuition is characterized by oneness, intimate and prehension, natural, real, intuition, contention, awareness and in-seeing.

We cannot dispense with symbolism in language and thought, but in real spiritual experience these symbols disappear.

Similarly, **Taoism**—knowledge of the way (*tao*)—refers to symbolic world as conventional knowledge and real knowledge as natural knowledge. For us, almost all knowledge is conventional knowledge, because *we do not feel that we really know anything unless we can represent it to ourselves in words*, or in some other system of conventional signs such as the notions of mathematics or music. It is called “conventional” because *it is a matter of social agreement* as to the codes of communication.

Taoists believe: **Those who know do not speak; those who speak do not know.**

If we attempt to describe reality in words, we must also describe the words that we use, and then describe the words we use to describe our words; thus, reality is lost in a vicious circle. We cannot think about life and reality, because this would have to include thinking about thinking, thinking about thinking about thinking, and so

ad infinitum.

Dunne, in his *Serial Universe*, refers to this circularity operation as an *infinite regress*. This also occurs in music, art and mathematics.

Bach gave an example of the notion of *Strange Loops* in music that occur whenever, by moving upwards (or downwards) through the levels of some hierarchical system, we unexpectedly find ourselves right back where we started.

Escher created some of the most intellectually stimulating drawing of all time. Many of them have their origin in paradox, illusion, or double meaning. The *strange loop* is one of the most recurrent themes in Escher's art. Implicit in the concept of strange loops is the concept of *infinity*, since a loop is a way of representing an endless process in a finite way.

Godel discovered the strange loop in mathematical system by translating the Greek paradox in philosophy, the so-called **Epimenides** paradox:

“This statement is false”.

Godel's idea was to use mathematical reasoning to explore mathematical reasoning itself and found the Godel Incompleteness Theorem which states:

Under specified consistency condition, any sufficiently strong formal axiomatic system must contain a proposition such that neither it nor its negation is provable and that any consistency proof for the system must use ideas and methods beyond those of the system itself.

We speak of the symbolism of mathematics, physics

and genetics, as well as of music and painting. The symbolic forms comprise those of reason, i.e., those of everyday and scientific cognition, and those of all activities characteristic of human mind and culture, including language, art, myth, and so forth. They are creative functions of the individual mind and culture concerned.

Cassier and **Langer** broadened the subject of symbolism from a *philosophical* angle, while **Bertalanffy** dealt with the same subject from a *biological* view point. *Symbolism* ranges from **Carnap**'s *logical syntax of language* to **Goethe**'s concept of *Faust* (poems) symbol, to **Van Gogh**'s *landscape* (painting), to **Bach**'s art of the *Fugue* (music), to **Spengler**'s Ur-symbols of *culture*, to **Tilliah**'s *religious* symbols, to **Freudian** and **Jungian** *psychological* symbols, and to **Einstein**'s *space* (physics).

It is interesting to note that a new way of thinking started at the beginning of the 20th century when Einstein's theory of relativity, Freud's psycho-analysis, Marx's theory of history, and Adler's individual psychology, were introduced about the same time.

Cassier's work extracted from a matrix of history of philosophy, linguistics, epistemology, mythology, history and philosophy of science, and so forth. By expanding **Kant**'s *Critique of Reason* into a *Critique of Culture*, Cassier stated that *symbolic forms* are essentially what **Kant** termed "categories". He demonstrated how the categories of existence, ego, space, time, number, and so on, emerge in interdependence with language, myth, and science. He created a broad general background by connecting the evolution of knowledge with the totality of spiritual culture: myths and religion, psychology and metaphysics, ethics (philosophy of conduct, of

right and wrong, of morals and responsibilities) and aesthetics (philosophy of beauty and its expression in art). The **Cassier**'s concept of *symbolic form* is an extension of **Kant**'s doctrine of *schema*. Schema is a sensuous-intellectual form. It is the unity of concept and intuition, the common achievement of both factors. The schema, according to Kant, is a phenomenon. Language possesses a schema. Art also is a concrete manifestation of union of intuitive and structural forms—the *schema*.

Similarly, the basic idea behind **Don Juan**'s teachings is that:

we create the world around us by our assumptions.

Our rational system of interpretation carves out a certain set of perceptions, connects them in a certain way and announces: “*the world is like this*”. What we see depends on what **we are prepared to see**. When we realize that all systems of interpretation are equally arbitrary, it is possible to leave one possible world and live for a time in **Wheeler**'s *superspace*.

All possible worlds are equally valid. I choose to live and to laugh, not because it matters, but because that choice is the “best” of my nature.

Our thinking process (our ego) representing the mental world (*mind and consciousness*) and the reality that we think about, are inseparable. This reality (*event*) is presented conveniently in our apparent world by the separated material and non-material entities. Man lives in his apparent worlds—the worlds of fragmentation. These worlds are created by the very fact of existence of man as a separate entity. This is a circular process which is well described by the art-works of **Escher**.

A process of creation of fragmentary apparent worlds

in which the fragmentary man is created, who develops the notion of these apparent worlds and himself. Thus, it seems natural to man to adopt the process of division to create a manageable world for himself corresponding to his limited capacity. The extension of this mode of fragmentation created a kind of general confusion of the mind.

The result of this artificial breaking-up has lead to science, technology and sub-specialties, separate nations, and different religious, political, economic, and racial groups. This fragmentation has even been extended to individual human being in accordance with his different psychological characteristics, and those individuals who are going beyond the '*normal*' limits of fragmentation are classified as paranoid, schizoid, psychotic, etc.

The creation of the fragmented apparent worlds, including the universal being and the human being, are for convenience. We realize this process of division becomes both necessary and proper to deal with practical work. **However, we should not go beyond its limit of usefulness and convenience.**

That is, the notion of separately existent entities and fragmentation is illusion within the context of our apparent worlds. There is a multiplication of **one** and unification of **many**. This is true for the beginnings and endings of worlds and of individual being, where they expand from a *point* without position or dimensions and a *now* without date or duration (see Figure 5.1).

A cube would appear to a two-dimensional being (the flatland) as a square. This means, when we view the apparent world with our limitations, we will see the world in that limited way. The universe does not exist only

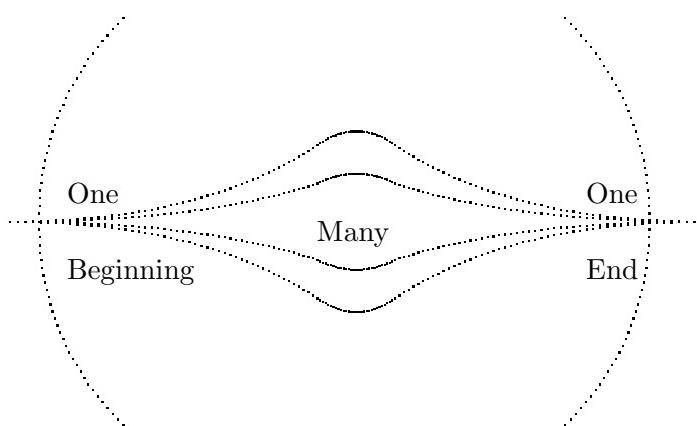


Figure 5.1: One and Many

in our familiar three dimensions or in Einstein's four dimensions. It is a universe of countless dimensions which embodies its wholeness. The higher dimensional reality is one unbroken whole of holoevent, '*extending*' through the universe and including all particles and fields, which is enfolded in the higher *implicate* order of whole. This whole is presented to us as a multidimensional reality expandable in a series with infinite terms that unfold into our familiar multidimensional *explicate* orders.

Eventics views human being as an event: A unified whole of the fields of psychology (*mind stuff*) and neurophysiology (*body*); and it scopes out the holistic study of what pertains to human being including all his symbols that have been described partially above. Human being is a para-holographic piece of universal being which at a deeper level reaches the holoevent. The holistic view of

the world is adopted here to bring us closer to the reality of **holoevent**.



Chapter 6

Concepts in Apparent Worlds

Engaged in a circularity (*cyclic*) method of world view, in any branch of inquiry of knowledge, we describe and study the linkage of pointer readings with pointer readings in endless *cycle*. For example, in **Einstein**'s law of gravitation we start out with a statement about *potentials* and go through the cycle of definition and end to *potentials* again.

In our apparent worlds, the events are interrelated by a *web-like* network of **series of events**, including the event of the existence of the “*human being*”. To describe each event we are engaged in a circular operation resulted by this network. Nevertheless, the entire network of series of events as a bundle derived from a single holoevent of the real world. Thus, the structure of each event is within the scope of the holoevent, and is decomposed of the entities that we introduce for our convenience. To make progress, we, in our apparent worlds

of circular operations, search for **simplicity** and proceed with approximations by introducing the convenient tools. Thereby, we are impressed by our power of explanation and by amazing partial practical success of our concepts and theories.

We also should realize that, in physical world, social life, political life, and any other field, *nothing ever comes off exactly as intended*. Things always turn out at least a little bit differently. We hardly ever produce precisely the effect that we wish to produce and usually get things that we do not want at the bargain. Of course, we act with certain aims in mind; but apart from these aims, which may or may not really be achieved, there are always certain unwanted consequences of our actions; and usually these unwanted consequences cannot be eliminated. This is well noticed in scientific arena, religious and social systems.

When a concept is adopted, that concept with its *errors* establishes the foundation (root) of our reasoning (scientific or non-scientific). It is therefore impossible for us with that concept to detect (uproot) its errors.

Our general notions of the nature of reality (**event**) and of the relationship between our thought and reality are implicitly or explicitly formed in our self-world views. We should be aware of this at all times. A painter of the universe, including himself, can never paint himself in a right position of his body. It will be based on his judgment. The mind, which any human science can describe can never be an adequate representation of mind, which can make that science, and the progress of correcting that inadequacy must follow the *serial process* with both apparently *independent serial* terms and *regressive serial*

terms, similar to the eigenvalue problem in mathematics. We are self-conscious creatures aware of something that we are able to regard as other than ourselves. Reality as it appears to humans is impossible to treat as rational, except by exhibiting it in the form of an *infinite series*. And according to **Dunne**'s theory of serialism: Whatever the universe may *be in itself*, we are faced with a serial universe with infinite terms. This characteristic is apparent in all branches of sciences and in particular, in measurement of space and time. The application of series in mathematics, and in particular, the greatest of all the **Taylor**, is well appreciated by scientists. Dunne illustrated his serial universe by depicting an artist who set out to paint a picture of the universe; having painted the landscape before him, he realized something was missing—himself; so he moved his easel back and painted himself in; but something was still missing—himself painting himself in; so he moved his easel back again—and so on.

As an example, the atomic theory first proposed by **Democritus** has led us to look at the world as being composed of atomic building blocks, moving in the void, and enabling us to understand the entire world in terms of the movements of ‘one single’ set of basic constituents through a ‘single’ void. However, this should be regarded as an *insight*, a way of looking, and not as an absolute truth, which brings about fragmentation. That is why the notion of atomism as absolute truth leads to confusion in the domains of quantum and relativity theories. In quantum theory, the observed atom and observer are inseparable. In relativity, there is no signal faster than light; i.e., a break down of the concept of a rigid body. Whereas, the atomic theory assumes an object is

bounded rigidly to all other parts. Both relativity and quantum theories should view the world in terms of a ‘universal flux of **events** and processes’.

In biology, modern molecular biologists believe that the whole of *life* and *mind* can be understood in mechanical terms by the structure and function of DNA molecules. This is also the trend in psychology. This fragmentation is an attempt to *divide* what is actually *indivisible* and is followed by an attempt to *unite* what is not really *unitable*. The appearance of *life* is unfolded from the multidimensional order of the universe. The usual scientific distinctions between life and nonlife are only abstractions. *Life* and *nonlife* are implicity woven into each other.

In the early phases of civilization, man’s views were of wholeness rather than of fragmentation. Our fragmentary way of thinking, looking, and acting has implications in every aspect of human life leading to such a crises: Psychological, social, political, economical, ecological, etc., in the individual and in society as a whole, such that there is no worth to impose some kind of integrating or unifying holistic principle on this *self-world* view.

Bruno believed that the world consists of “*monads*”, ultimate indivisible units with spiritual and material order in nature. **Leibniz** believed that the world consists of simple units, “*monads*” that are ultimate constituents of everything, possessing neither shape nor size nor divisibility; and since decay pertains to complex and divisible structures, then these monads are eternal and immortal. **Eventics** introduces **eventon**, which contains both Bruno and Leibniz monads qualities.

The western philosophy of Kant states that: Pure reason is simply incapable of grasping transcendent realities; It only finds that its contradictory can be put with equal plausibility. Eastern philosophy and psychology states that: Reason cannot grasp the essence of absolute reality, and it only generates dualistic incompatibilities.

The *perennial* (coined by **Leibniz**) philosophy has as its core the notion of *nonduality*, which means that reality is neither one nor many, neither pluralistic nor holistic, neither separate nor unified, neither permanent nor dynamic. The ultimate reality is “nondual” or “not-two”, which is translated into our dualistic world with a system of opposites. That is, the Ultimate is a “coincidence of opposites” and we cannot picture a thing *being* itself and *not being* itself at the same time, similar to Schrödinger’s cat experiment to picture cat both dead and alive at the same time. The ultimate realm is **formlessness**.

The perennial philosophy/psychology presents *being* and *consciousness* as a hierarchy of dimensional levels, moving from the lowest, densest, and most fragmentary realms to the highest, subtlest, and most unitary ones. According to perennial traditions there are six levels of consciousness, each transcends but includes its predecessor:

1. Physical—nonliving matter/energy
2. Biological—living, sentient matter/energy
3. Psychological—mind, ego, logic, thinking
4. Subtle—archetypal, transindividual, intuitive
5. Causal—formless radiance, perfect transcendence

6. Ultimate—consciousness as such, the source and nature of all other levels

In perennial philosophy, all the elements of a given level are equivalent in status: **All in one and one in all—para-holographically.** Holoarchy *within* each level, but hierarchy *between* each level.

There are also some new “supertheories” that include a higher knowledge of unified world view with the claim of philosophy-psychology and transcendental religion-mysticism.

Some scientists have already started to make connections between physics and parapsychology/mysticism by making a connection between *mind* and *matter*. But they state in several ways that matter is created out of mind.

Eventics states that: *matter and mind are two different aspects of one unified thing*—the **holoevent**. In Eventics, physics works on its own ground and psychology/mysticism works on its own ground. Neither field of inquiries can be an authority in other fields. Any attempt to build a transpersonal model from the physical realm, or to build a physical model from the mystical realm is meaningless. It is in Eventics that all these realms are smeared at the level of holoevent of real world, and in deeper sense at *omnievent* of *omniwholeworld (superworld)*.

The *spiritual* mode of knowing with the eye of contemplation is the trans-symbolic grasp of the trans-symbolic world. In this mode, time and space cease to exist, or all times and spaces exist simultaneously, now, in the eternal moment: **We are here in the realm of the Timeless that is All Time, the Spaceless that is All Space.** This in some respect is similar to the holoevent of real world.

and the ominevent of omniwholeworld of Eventics, with no reference to causal laws.

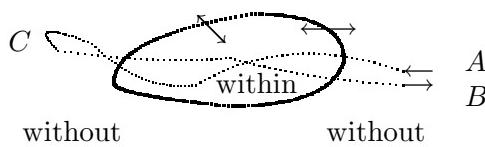
Dilthey introduced Geist (which means both mind and spirit and is used by Hegel) sciences, which, as the mental and spiritual sciences, include the study of philosophical world views, systems, and psychology, of art and music, of literature and poetry, the science of religion, the science of law and the state, national economy, and history. Geist-science not only deals with higher realms but also with the grasp and understanding of the physical realm.

The implicate order of **Bohm** does not transcend matter—it subscends matter and expresses a coherence, unity, and wholeness of the entire physical realm. It goes beyond explicate order of matter, but in a subscending or underlying manner, not a transcending one, and excludes the higher realms of mind and consciousness.

The *implicate* and *explicate orders* of **Eventics**, aim at all levels of super-implicate and super-explicate physical and non-physical realms.

6.1 First Order of Approximation

Man in an effort to describe the events of his apparent worlds in a manageable way, approximates the continuum world by distinct regions of *internal* and *external* worlds, with recognizable *inter-relationships*, (see Figure 6.1).



The good path, reflected from C , brings the end concept B closer to A in the continuum

Figure 6.1: Inter-relation Path

We refer to our interaction with external world as *observation*, which represents the effect of external world on our generalized senses as interpreted by our sensations. This observation that corresponds to our interaction within the region of our approximation, may not involve the totality of our senses. We claim *experience* from the accumulation of these *observations*. But this experience is so influenced by our senses and foregoing approximations such that it should be considered as *prejudice*.

At this first order of approximation, we discretize our apparent world by the concepts of:

- * **World from within**
- * **World from without**
- * **Interactive world**

Further concept development is associated with either of these classes of inquiries, leading to the introduction of a series of sciences, non-sciences and other fields concerning human knowledge and affairs. Although, there are some similarities between the world view of science and non-science such as mysticism, as the result of their common origin of holoevent (and omnevent in deeper sense), as the sole reality of superworld described in **Eventics**. But, there are vast differences between them in the way we deal with them in our apparent worlds. Physics, mysticism, religion and etc. stand side by side as the different aspects of human *sub-realities* in apparent worlds. In **Eventics**, they all ultimately emerge to one unified reality (the omnevent) of omni-wholeworld via holoevent.

In **Eventics**, *space* and *time* are projections from a higher dimensional entity, and *matter* and *mind* are projections of *matter-mind* continuum - the **Eventum**. They are all unfolded subtotals of higher dimensions, which eventually end to **holoevent** with countless (non-countable) dimensions in our perception that has no dimension on its own account. Mind and brain, consciousness and matter, mind and body enfolded each other. They are, as the projections of holoevent, neither separate nor the same. The holoevent is reached, via the point of *nothingness*; as the gate to omnevent of omni-

wholeworld, which in common language contains a vast sea of everything - the '*sea of energy*'.

The universe cannot be disassembled into simpler and simpler parts. Everything is in dynamic interaction. There is no real hierarchy, no fundamental level of description with other levels stacked on top of it. Instead, there are different levels, each dependent on the others in complex ways. *Bootstrap* philosophy originated by **Geoffrey Chew** accepts no fundamental entities, no fundamental laws, equations, or principles, in our apparent worlds. By this theory, in the context of S-matrix theory, universe is seen as a *dynamic web* of interrelated events, and none of the properties of any part of this web is fundamental, and overall consistency of their mutual interrelations determines the structure of entire web.

The world as expressed by an assemblage of entities is the creation of the human mind and is a limited and approximate conceptual scheme within our apparent worlds. What makes science so successful is the discovery that approximations are possible. If one is satisfied with an approximate "understanding" of nature, one can describe selected groups of events in this way, disregarding other events that are considered to be less significant. Thus, one can explain many phenomena in terms of a few, and consequently understand different aspects of an apparent world in an approximate way without having to understand everything at once. However, we should realize, as **Heisenberg** explained:

That every concept clear as it may seem to be,
has only a limited range of applicability.

For various human concepts development by human, such as space, time, mass, force, and derived energy and

momentum, and so-on, see many excellent book such as
Max Jammar books

6.2 Further Order of Approximations

There are number of sciences which deal with man. Natural history, physiology, science and sociology give *external* views of man. Psychology gives an *internal* view of man. In psychology, we study man as he appears to himself, and we use data that can only be obtained when the *observer* and the *observed* are the same person. There are important reality which cannot be known except when the observer and observed are the same person. In a sense, we all have an inner life, open to our own inspection but not to no one else's.

To elaborate upon different stages of events, at the second order of approximation, we can proceed as follows:

Suppose you are watching a race, and at the appropriate moment you express your reaction. The complexity of what has happened is almost incredible. This event may conveniently be divided into four stages:

- First**, what happened in the outside world between the runners and your eyes (**physical event**);
- Second**, what happened in your body from your eyes to your brain (**physiological event**);
- Third**, what happened in your brain (**psychological event**);
- Fourth**, what happened in your body from brain to the movements of your throat and tongue (**physiological event**).

The psychological event, owing to our lack of knowledge as to the brain, embodies the results of experience, learning and prejudice. Direct experience is the private affair of each of us. What in our experience appears as

our voice is the result of physical events in the muscles of our mouths and throats. Such physical events are the concern of pure physics and physiology.

The scientists express: **We can only see things which are outside of our heads;** while the philosophers express: **We can only see things which are inside of our heads.** The scientists usually think in terms of quantities and have a tendency to use word in an objective sense, the philosophers think in terms of qualities and use the word in a subjective sense. Modern scientist speaks of the *space-time concept*, while modern philosopher speaks of the *experience-knowledge percept*.

6.2.1 Science

Practical curiosity ultimately developed into *science*. The major assignment of science of today is to provide descriptions of certain phenomena in the world of man's experience and prejudice. Scientific concepts are sole creations of human mind and are not uniquely determined by the external world.

The task of science is to search for unifying descriptions and explanations:

Search for laws (such as the law of physics), elements (such as the elements of chemistry), and structures (such as the structures of biology). Of course, law, element, and structures are inseparable as in Eventics. As **Whitehead** emphasized: **Science deals with quantity not quality.** **Kant** stated correctly that: **Science cannot pierce the veil of appearances.** The special sciences have been all grouped up by the use of notions derived from common sense, such as *things* and their qualities, *space*, *time*, and causation. None of these common sense notions will quite serve as an explanation of the real world; but it is hardly the province of any special science to undertake the necessary reconstruction of fundamentals. This task belongs to **Eventics**.

The philosophical errors in common sense beliefs not only produce confusion in science, but also do harm in ethics and politics, in social institutions, and in the conduct of every day life. Science is concerned merely with *what happens* and what *should*, or is *assumed* to happen, not with what *must* happen. Naïve common sense supposes that the objects, such as tables and chairs, are what they appear to be, but that is unjustified since they do not appear exactly alike to any two simultaneous ob-

servers; there may be great differences between what you and I see when, as we say, we look at the same chair; nevertheless, we can both express our perceptions by the same words. Each man will end up ‘*seeing*’ the world in the way organized according to his own *schema* or *Gestalt*.

Human, at different stages of his life, tried to describe nature, by three types of explanations:

- * **Geometrical,**
- * **Mechanical, and**
- * **Mathematical:**

1. The examples of *geometrical descriptions* are: In ancient **Greek**, all motions tend to be circular because circle is the perfect geometrical figure; in **Descartes** system, description of nature in terms of motion, vortices, etc.; in **Einstein** theory of relativity, purely geometrical description of motion which states moving object or a ray of light moves along a geodesic—a four dimensional curved space-time.
2. The examples of *mechanical descriptions* in which forces, pressures and tensions are introduced are: **Greeks** claimed the working of nature as a machine; **Huygens** and **Newton** thought that the only possible explanations of nature were mechanical which was supplemented by **Faraday** and **Maxwell**.
3. *Mathematical descriptions* as the tools provide the means to understand the nature of the our apparent

world. There can be no pictorial representation of the workings of nature that would be intelligible to our limited minds. We can never understand what events are, but must limit ourselves to describing the pattern of events in mathematical terms.

These describe only our observations of nature. Our studies can never put us into contact with reality, and its true meaning and nature must be forever hidden from us; we can never penetrate beyond the impressions that reality implants in our minds.

The goal of **science** appeared to be *analytical*, i.e., the splitting up of reality into ever smaller units. This scheme proved to be insufficient; hence, in modern science it is replaced by notions like wholeness, holistic, organismic, Gestalt, etc., which signify that in modern science we must think in terms of systems of elements in mutual interactions.

Analytical procedure means that an entity investigated be resolved into, and hence can be constituted or reconstituted from, the parts put together in any sense, conceptual or etc. Analytical procedure is based on two conditions. First, interactions between '*parts*' are non-existent or weak enough to be neglected. Second, reactions describing the behavior of *parts* are *linear*, when the equation describing the behavior of the total is the same form as the equations describing the behavior of the parts and the *principle of superposition* holds, i.e., partial processes can be superimposed to obtain the total process. Systems, consisting of parts in interaction, are entities in which the above conditions are not fulfilled. Their descriptions are the set of simultaneous *differential equations*, which in the general case are *non-linear*. The

linear world is a world without surprises. It is a clock-work world in which things can be taken apart and rebuilt again. By contrast, the *non-linear* world described mathematically by **Rene Thom**, in his *catastrophe* theory, can be violent and unpredictable.

Our thinking shifts toward rigorous but holistic theories: Thinking in terms of reality and **events** in the context of *wholes*, forming integrated sets with their own properties and relationships; Looking at the world in terms of such sets of integrated relations constitutes the system view. Science now looks at a number of different and interacting things and notes their behavior as a whole. It takes them in integrated chunks.

The characteristics of “**wholes**” are typical for all groups of interacting parts when the parts maintain some basic sets of relationships among themselves. Such entities exhibit a certain uniqueness of characteristics as *wholes* which cannot be reduced to properties of their individual *parts*. Each system has a specific structure made up of certain maintained relationships among its parts, and manifests irreducible characteristics of its own.

Another development in science is the science of **energy** conversion and the science of **heat** engines, which gave birth to **Thermodynamics**. There are three stages in thermodynamics:

Equilibrium;
Linear, near-to-equilibrium;
Nonlinear, far-from-equilibrium.

Thermodynamics embraces both physics and chemistry with the concept of **Entropy**—the idea that “*the*

universe is running down”. The word entropy, thought up by **Clausius** (1865), is from the Greek *en-* (in) and *trope* (a turning, change) meaning a decrease in available energy, which takes place whenever energy is transformed from one state to another. Entropy and *oldness* are synonyms in some languages that should not be confused with the aging which is an artificial entity as a function of our apparent world time.

The **first law** of thermodynamics states that the total energy content of the universe is constant;

The **second law of thermodynamics**—the *Entropy Law*—states that matter and energy can only be changed in one direction, that is, from usable to unusable, or from *available* to *unavailable*, or from “*ordered*” to “*disordered*”. **Einstein** called it the *premier law* of all of science; **Eddington** referred to it as the *supreme metaphysical law* of the entire universe. According to this law, in irreversible process, some of the energy would be converted into an ‘*unavailable*’ form—toward a ‘*dissipated state*’—i.e., the total entropy is continually increasing. You cannot run the universe backward to make up for entropy. In this sense there is a directionality, or as called by Eddington, an “**arrow**” in “time”.

Prigogine invented a science of **Becoming** extending through chemistry and biology, by starting out with *thermodynamics*. He called the far-from-equilibrium states the “*dissipative structures*”. Vortex formed in a turbulent river due to a slight disturbance is an example of far-from-equilibrium or dissipative structures. To dissipate entropy requires a constant input of energy and new materials, which is why dissipative structures must form in energy-filled, far-from-equilibrium situations; (a

vortex wouldn't form in a still pond).

Another concept in science, the concept of system constitutes a new paradigm or a new philosophy of nature. It was introduced by **Bertalanffy** in 1945, which represents a '*paradigm*' in scientific thinking that is **General System**. There are three main aspects to the general system theory:

1. **System science**, i.e., scientific exploration of theory of systems in the various sciences. General system theory is scientific exploration of '*wholes*' and '*wholeness*'.
2. **System technology**, i.e., the problems arising in modern technology and society from hardware of computers to software of theoretical developments.
3. **System philosophy**, i.e., the reorientation of thought and world view as a scientific paradigm.

The subject matter of General System Theory is formulation and derivation of universal principles by the convenient definition of the concept of system, which are valid for '*system*' in general. These principles apply to generalized systems, whether they are of physical, biological or sociological nature, irrespective of their particular kind, the nature of their elements, and relations (forces) involved between them. In the biological description of nature we refer to *inorganic*, *organic*, and *supraorganic* to describe different levels of human reality.

Various approaches of systems theories are:

1. **“Classical” system theory.** It applies calculus (classical mathematics) to state principles, which apply to system in general or to subclasses (closed or open systems).
2. **Computerization and simulation.** It derives sets of simultaneous differential equations to model or define a system that are tiresome to solve, if linear, and are unsolvable, if nonlinear, except in special cases. Computers have opened a new approachin the systems that facilitates the calculations, simulates experiments, and provides the most powerful means of symbolic mathematical systems operation.
3. **Cybernetics.** It is the theory of control mechanisms in technology and nature, founded on the concepts of information and feedback is a special case of general theory of systems showing self-regulation. It is based on communication (transport of information) between system and environment and within the system, and on control (feedback) of the system’s function in regard to environment. Feedback mechanism is the basis for operation of all servomechanisms. The cybernetics model is apt to describe the formal structure of regulatory mechanisms, by block and flow diagrams. The system is a “black box” defined only by input and output. Therefore, the same cybernetic scheme may apply to physiological, electric, hydraulic, etc., systems.
4. **Compartment theory** is the theory of systems

consisting of subsystems with certain boundary conditions between which transport processes take place. One example is the finite element modeling.

5. **Set theory.** The general formal properties of systems. closed and open systems, etc., can be axiomatized in terms of set theory.
6. **Topology or relational mathematics** including non-material fields such as graph and network theory. **Graph** theory elaborates relational structures by representing them in a topological space. It applies to those problems that concern with topological properties of systems. Mathematically, it is connected with matrix algebra, and modelwise it is connected with compartment theory and open systems. **Network** theory is applied to systems with network, and it is connected to set, graph, compartment, etc., theories.
7. **Decision theory**, is a mathematical theory concerned with choices among alternatives.
8. **Information theory** is based on the concept of information, defined by an expression isomorphic to negative entropy of thermodynamics, that it may be used as measure of organization.
9. **Theory of automata**, is the theory of abstract automata, with input, output, possibly trial-and-error and learning. A general model is the turning machine which is capable of imprinting or deleting “1” and “0” marks on a tape (digitization). Any process of whatever complexity can be simulated

by a machine, if that process can be expressed in a finite number of logical operations. Whatever is possible logically in an algorithmic symbolism, also can be constructed by an automation, i.e., an algorithmic machine. This can be extended to include the development of digital *Fuzzy Logic* by **Lotfi Zadeh** and *Eventics logic*.

10. **Game theory**, is concerned with the behavior of supposedly “rational” players to obtain maximal gains and minimal losses by approximation strategies against the other player (or nature).
11. **Queuing theory**, concerns optimization of arrangements under conditions of crowding.

General system theory concerned with *scientific* thought introduced new conceptual models—the generalization of scientific concepts and models that are of interdisciplinary nature. According to this theory, at the scientific level there is no unique and all-embracing “world system.” All scientific concepts are models representing certain aspects or perspectives of reality. In practice, some combination of different models are also considered. Classical physics developed the theory of unorganized complexity. Modern science deals with concepts of organized complexity, such as organization, wholeness, directiveness, teleology, and differentiation, which occurs in physics, biological, behavioral, social sciences.

By the way of the general systems theory, the structural similarities or isomorphisms in different fields become apparent. These so-called similarities appear by virtue of introduction and separation (discretization) of

these fields. They all derived from a single source of **holoevent** where even the word similarity has no meaning.

Jantsch made a synthesis of **Prigogine**'s theory with **Bertalanffy**'s system theory, along with physics and neuropsychology, urban planning and others, and called it **co-evolution**. Co-evolution is the dissipative-structure approach to the origins of species of **Darwin**'s. He pictured the universe as a cosmic dissipative structure, but he has gone through the full circle and challenge the conclusion of thermodynamics—that the universe is running down.

These above theories made effort to integrate the separated fields of inquiries outlined above by the scientific method.

Eventics is concerned with the **holistic** aspect of **event** (reality) and deals with “**wholeness**” where the disintegrated models are not introduced in the first place. **Eventics** deals with *becoming (event)* as a **natural whole** in its original quality, containing all systems aspects described by the *System Theory, Co-evolution* theories, and concerns with Holistic Numbers before digitization such that the **Fractal world** occurs Naturally!

Digitization is human practice, Eventics deals with the continuum of numbers similar to the analog graph that includes all **endless Fractal** behaviors. The Continuum analog numbers includes all endless **Fractal** thru **Mobius** by traveling in and out of **Apparent world** to **Superworld!**

6.2.2 Philosophy

The name philosophy implies the *love of wisdom* (ancient terminology). It entered into the fundamental structure of the world and the principles governing the order of events. Philosophy has grown out of intellectual curiosity. The initiators of this plan to apply reason to human affairs and concerns lived in Ionia, a Greek settlement in Asia Minor. The Greeks conceived of law and order in nature and made attempts to secure a rational explanation of nature. This is clearly expressed by **Anaxagoras**: “*reason rules the world.*”

During the medieval age, when Christianity appeared and conquered the world, the percepts of religion replaced philosophy. During the Renaissance, the writing of **Copernicus**, the speculations of **Bruno** and the observations of **Galileo** built a new world view that became scientific by **Galileo**, **Kepler** and **Newton**. Nature no longer was interpreted as a collection of animated personalities. This brought a beautiful *simplicity* into inanimate nature, but also brought another *simplicity* called materialism with **Hobbes** as its principal advocate. Its central doctrine were that the whole world could be constructed out of *matter* and *motion*; that is, matter was the only reality, and *events* of every kind were simply the *motion of matter*.

Renaissance philosophy was eventually modified and lead to the present day philosophy.

Philosophy dealing with the overall aspect of Eventics, should be a continuing activity, not something in which we can achieve final perfection once and for all. Theological dogmas are fixed, and are regarded as incapable of improvement. Philosophy should not suffer from

its association with theology, and should be piecemeal and provisional like science and be satisfied by gradual approximations.

Western philosophy created from Greek philosophy is the philosophy of dualisms. These include: The dualistic knowledge wherein the universe is served into subject vs. object is the very cornerstone of philosophy, theology, and science. The dualism of truth vs. falsity, called logic. The dualism of good vs. evil, called ethics. The dualism of appearance vs. reality called epistemology. Furthermore, Greeks initiated the study of ontology, the examination of the ultimate nature or being of the universe with inquiries around dualisms of the one vs. the many, chaos vs. order, simplicity vs. complexity.

In *perennial* philosophy, it is realized that mystical consciousness, subject and object, become one in the act of knowing. This suggestion is a step toward **Eventics**. In the mystical consciousness, reality or event is apprehended directly and immediately, meaning without any mediation, any symbolic elaboration, any conceptualization, or any abstraction; *subject* and *object* become one in a **timeless** and **spaceless** act that is beyond any and all forms of mediation. Mystics speak of contacting reality in its ‘*suchness*’, its ‘*isness*’, its ‘*thatness*’, without any intermediaries; beyond words, symbols, names, thoughts, images, etc. Eventics states the same fact without being only the mysticism alone.

Quantum mechanics attacked the very cornerstone of the foundation of classical physics which comprised the subject-object dualism. That is the subject cannot tinker with the object; the measured object could never be completely separated from the measuring subject. The

measured and the measurer, the verified and the verifier are one and the same, the subject and object are ultimately one and the same thing. We cannot observe the course of nature without disturbing it; observation means interference with what we are observing; observation disturbs what is reality to observer. This is well accepted in quantum mechanics.

The *philosophy of mind* has acquired new life from recent work in *cognitive psychology*, *linguistics*, and the *information sciences*. Now, there is extensive interchange between philosophers of psychology and cognitive psychologists. They both address questions about thinking, perceiving and imagining which is a positive step towards Eventics.

6.2.3 Physics and Psychology Matter and Mind

Popular metaphysics divides the known world into *mind* and *matter*, and a human being into *soul* and *body*.

Materialists have said that matter alone is real and mind is an illusion.

Idealists in the technical sense, or mentalists, have taken the opposite view, that mind alone is real and matter is an illusion.

Actually both mind and matter are our convenient expressions for the more primitive stuff, which is neither mental nor material. Mind and matter are to be regarded as different autonomous orders within the one whole event—the **holoevent**. Consciousness, which includes thought, feeling, desire, will, etc., and involves awareness, attention, perception, acts of understanding and many more, is not fundamentally separated from matter. Both are abstractions from the holoevent and can be understood together in terms of the general order of unbroken wholeness of *holoevent*. That is, *intelligence* and *material process* have a single origin, which is ultimately the unknown totality of the *holoevent* and *omnievent* in the deeper sense.

Synergy (*syn* meaning union and fusion), represents the behavior of integral, aggregate, whole systems unpredicted by behaviors of their parts taken separately. Synergetics, based on the concept of synergy, develops the integration of geometry and philosophy in a single conceptual system comprehensive to physics, chemistry, arithmetic and geometry with mathematics of topology and vectorial geometry. This integration provides a common

language accounting for both the physical and metaphysical events. Synergetics postulates that all phenomena are metaphysical, designated for all weightless phenomena such as *thought*. It deals with our apparent worlds, believing in a synergetic progression in universe—a hierarchy of total complex behaviors entirely unpredicted by the successive subcomplexes behaviors—*a serial universe*.

The origin of *mind* and *matter* is deeper and more inward than any knowable order that could describe them. For example, in intelligent perception, the brain and nervous system respond to an order of unknowable source that cannot be reduced to anything defined in terms of knowable structures. Matter and mind are inseparable entities, as nicely entangled in this reference to age: “*age is a matter of mind. if you don't mind it doesn't matter.*”

Avicenna (Abu Ali Sinā 980-1037 A.D.), a Persian philosopher and the Prince of Physicians, the author of the masterpiece of peripatetic philosophy—*Shifā*, believed in interactions between *soul* and *body*; as he stated:

A certain power to alter things indwells in human soul and subordinates the other things to her, particularly when she is swept into a great excess of love or hate or the like, i.e., when the soul of a man falls into a great excess of any passion, the excess binds things and alters them in the way the soul wants.

The interaction between body and mind of human being is well recognized in many cultures and in practicing medicine. I as the author of this book have witnessed the positive results of my holistic treatment (physical and mental) of the patients when I was assisting physicians during my high school years, and when I saved (as later

expressed by a specialist) the life of a relative.

Eventics treats the totality of existence, including matter and consciousness as an unbroken whole—a consistent account of the new properties of matter, of the activity of consciousness, and of consciousness relationship to matter. Real stuff is the *holoevent* of real world corresponding to omnient of omniwholeworld. This real stuff occurs (appears) to us in our apparent worlds as a *series of events*. Of course, Eventics is more than combined physics and psychology.

Fichte (1762-1814 A.D.) distinguished the world of being by *finite ego* (empirical ego), *non ego*, and *infinite ego* (pure ego). The pure ego (**atman**, very self, universal oneness) is the innermost active essence of our being. The pure ego is relavent to *holoevent*. The world of our finite being comes into existence for us by a certain real projection—we project time, space and etc. just as we project the sense, qualities. The finite ego corresponds to our apparent worlds.

We link the series of events together by a particular arrangement that we call “*causal*” law. Mind and mental are merely approximate concept giving a convenient shorthand for certain approximate causal laws concerning *events*. This is a task to accommodate our apparent observations that are regarded as the facts of the world. However, it should be noted that the word ‘**fact**’ is from the Latin root ‘*facere*’ meaning ‘*what has been made*’. That is, we begin with immediate perception of a situation and develop the *fact* by giving it further *order*, *form* and *structure* with the aid of our theoretical concepts, We ‘*make*’ the fact. Of course, the changes in the theory ultimately lead to new ways of conducting experiments

and creating instruments, which in turn lead to the ‘*making*’ of ordered *facts* of new kinds—i.e. circular or *spiral* world. For example, in ancient time, men were led to ‘*make*’ the fact about planetary motions by describing and measuring in terms of *epicycles*. In classical physics, the fact was ‘*made*’ in terms of the order of *planetary* orbits. In general relativity, the fact was ‘*made*’ in terms of the order of *Riemannian* geometry and ‘*curvature of space*’. In quantum theory, the fact was ‘*made*’ in terms of the order of energy levels, quantum numbers, symmetry groups, etc. Theoretical notions of order help to give ‘*shape*’ to ‘*fact*’. ‘*Fact*’ and ‘*theory*’ are different aspects of one whole in which analysis into separate but interacting parts is not relevant.

Within the scope of *man from without*, we take a common-sense view of the material world. *Perception* gives us the most concrete knowledge we possess as to the *stuff* of the physical world, but what we perceive is part of the stuff of our brain, not tables nor chairs. We may say, when we are looking at a leaf, and see a green patch, that this patch is not ‘*out there*’ where the leaf is, but is an *event* as the main stuff of our brain and leaf, conceivable by our brain during that time. This implies that “*matter*” has become no more than a convenient shorthand for stating certain “*causal*” laws concerning **events**. Objective experience depends upon physical events, which stimulate sense organs, and depends upon physiological events. Objective experience allows us to draw a picture of both the physical and physiological worlds. We experience events by the physiological processes of brain and physical processes with spatial and temporal orders and so forth, as an approximation to the

real occurrences. The characteristics of physical realm is *quantity* and *extension*, and the characteristics of mental-psychological realm is *quality* and *intention*.

The **physicist** is interested in the “*fact*” that objective experience depends upon *physical events*. The dependence of objective experience upon physical events outside the organism enables the physicist to infer from experience what those physical events are. Physics relates the “*static*” dynamical description to “*being*”, and relates the thermodynamic description with its emphasis on irreversibility to “*becoming*”.

The **psychologist** is interested in the “*fact*” that objective experience depends upon *physiological events* in the brain which contain hints as to the nature of these processes. The functional concepts, which are applied to sensory organization, are useful in the theoretical treatment of these qualities. *Gestalt* psychology concentrates on extended events, which distribute and regulate themselves as functional wholes. *Gestalt* psychology works with a physiological principle about sensory experience and the more subtle processe: when related physiological events are taken from their context and compared with their similarities, the resulting logical order must be the same as that of the experience. *Gestalt* psychology shows the existence and primacy of psychological wholes, which are not a summation of elementary units, such as elementary sensations, and are governed by dynamic laws. It refers to *whole* (more than unification) as well as parts (segregation) and makes use of scientific procedures, namely, the “*analysis*”. *Gestalt* psychology refers to the meaning of *Gestalt* as a specific object and organization. However, *Gestalt* refers to both spatial qualities

and to temporal qualities, and to combined qualities such as movements.

When Gestalt psychology gained acceptance in physics as well as in psychology, it placed **physics** and **psychology** in a new relationship. Gestalt psychology did that by virtue of the concept of *wholeness*. Nativism as in Gestalt psychology with its nativistic chains, believes in heredity and innate understanding. Environmentalism as in learning psychology discusses environment and acquiring understanding by learning.

The fundamental categories of understanding are not innate nor acquired by learning. The concept of Gestalt may be applied far beyond the limits of sensory experience to include the process of learning, of recall, of emotional attitude, of thinking, acting, and so forth. First, when it is applied to cases of experienced *spatial order*, experienced order in space is always structurally identical with a functional order in the *distribution* of underlying brain processes. Second, when it is applied to cases of experienced *temporal order*, experienced order in time is always structurally identical with a functional order in the *sequence* of correlated brain processes.

We also have the concept of *mathematics* in which the central role is played by the human being and his capabilities such that mathematics may be said to be a branch of *psychology*. Formalists consider mathematics to be a game with symbols. **Hilbert** introduced formalism as a methodological principle.

Hertz, in the beginning of the introduction to his *Principles of Mechanics*, expressed the formalistic point of view as applied to physics, which also indicates very clearly the conformity, the self-balanced, closed-loop and

circularity concepts:

“Within our own minds we form for ourselves images (internal pictures) or symbols of the external objects; and the form which we give them is such that the logically necessary consequents of the images in thought are always the images or symbols of the necessary consequents in nature of the things pictured. The images are our conceptions of things. In order to satisfy this requirement, there must be a certain conformity between nature and our thought.”

When a physicist ‘looks at’ *quantum* world or at *relativistic* world he is not looking at the ‘things in themselves,’ he is looking at a set of highly abstract differential equations—not at ‘reality’ itself, but at mathematical symbols of his reality. Physics deals with abstract and mediate symbols and forms of physical reality. In the theory of signification, meaning is understood as the relationship between a signified, which is considered to be an object or an action, and a signifier (index, sign and symbol), which stands for it.

Eddington stated: The exploration of external world by the methods of physical science leads to a *shadow* world of *symbols*.

Piaget believed also, that there are relations between the thought of the child and symbolic thought. This *shadow* world is what is referred to here as *apparent* world. New physics is forced to be aware that it is dealing with *shadows* and *illusions*, and the scheme of physics is now formulated in such a way as to make it self-evident

that it is a partial aspect of something *wider*. However, physics can tell us nothing about this something wider—the **holoevent**. Physics deals with shadows; to go beyond shadows is to go beyond physics, i.e., to go to **Eventics**.

The woodcut from Camille Flammarion in 1888 (as shown in *The Mathematical Experience* by Davis and Hersh) depicted an astronomer as breaking through the *shell of appearances* to arrive at an understanding of the fundamental mechanism that lies *behind appearances*.

As per **Omar Khayyam**

*The Secret of the Universe is unknown to Thee and Me,
Its Wonder behind a Veil unseen by Thee and Me.
Some Talk past the Veil awhile of Me and Thee
As the Veil falls no more of Thee and Me*

The brilliant idea of **Max Planck** in the year of 1900 marked the first crack in the rigid frame of scientific dualism. He proposed that the radiation of energy is not continuous, but comes in discrete packets or **quanta**, as Einstein called them. **Einstein** took Planck's theory and successfully applied it to the photoelectric effect. **Bohr** applied it to sub-atomic physics. **de Broglie**, using these insights, showed that matter and energy produced waves. **Schrödinger** formulated the mounumental quantum mechanics. The problem began when the dualistic idea of *subject vs. object*, of *observer vs. event* and so on, extended into the world of sub-atomic physics. To measure anything requires some sort of tool or instrument, yet the electron weighs so little that any conceivable device, even one as “light” as a photon, would

cause the electron to change position in the very act of trying to measure it! This inability to pinpoint the “ultimate reality” of the universe is mathematically stated as the *Heisenberg Uncertainty Principle*. All the aforementioned insights come to full effect in a conclusion formulated by this principle.

The assumption that the observer is separate from the event, the assumption that one could dualistically tinker with the universe without affecting it, is found untenable. In some mysterious fashion, the subject and the object are intimately unified. **Eddington** refer to it as, “**s**omething **u**nknown **i**s happening and we don’t know what.” That something is **holoevent** in this book. Eddington called this mode of knowledge as intimate knowledge because the subject and object are intimately unified in its operation.

As soon as the dualism of subject-object arises however, this “intimacy is lost” and is replaced by symbolism. The customary forms of reasoning have been developed for symbolic knowledge, which falls into the all-too-common world of analytical and dualistic knowledge. And since the separation of the subject from object is illusory, then symbolic knowledge resulting from it is also illusory. The separation between our-self as subject ‘in here’ and a reading page as object ‘out there’ is illusion. **Eddington** used the word *shadow* in describing the world that physical science is concerned with, which is comparable to apparent worlds in **Eventics**.

Parallel to epistemological dualism of subject vs. object, there had been the ontological dualism of spirit vs. matter, or mental vs. material. The quantum theory could not find any material stuff; nor could it find spir-

itual stuff. Our conception of substance is only vivid so long as we do not face it: It begins *to fade away when we approach it*. We have chased the solid substance to atom, electron and sub-particle and there we have *lost it*. Quantum physics had taken dualism of mental vs. material to the annihilating edge (the point of **nothingness**), and there it had **vaniſhed**.

We cannot erect an absolute barrier between mind and matter; and the word “*mind*” and the word “*matter*” should be replaced by the laws of **events**. As **Russell** put it:

“The world may be called physical or mental or both or neither as we please”. This view is neither materialism nor mentalism and in a narrow sense supports **Russel**’s ‘*neutral monism*’. It is monism in the sense that it regards the world as composed of only one kind of stuff, namely *event* (the *holoevent* in this book).

Parmenides, Zenon and Melissoſ, believed in monism just as **Spinoza**, **Hegel** and **Bradly** did. To Hegel, nothing is ultimately real except the *whole*, which is a complex system.

Heraclitus, atomists, **Leibniz** and empiricists, had a pluralistic view. According to Parmenides, the universe is a compact *plenum*—one continuous unchanging *whole*. It is a finite, immovable, indivisible, and continuous plenum (the essential *oneness* of existence)—a static (*being*) view.

Eventics agrees with Parmenides wholeness as one aspect of the reality and combines that *being*) view with the *becoming* view, which is another aspect of the same reality. Events that have emerged in our framework are not to be regarded as consisting of motions of bits of

matter (matter in motion). Matter and motion are convenient constructions using *events* as their material. We visualize events in terms of the items that are important to us such as matter and motion, and regard them as the component of the events. Both by the analysis of *physics* and by the analysis of *psychology*, we find that mental and physical occurrences are inseparable ingredient of a single event—the **holoevent**, the footprint of **omnient** of the omniwholeworld.

6.2.4 Mathematics

Art that includes Mathematics, Poetry, Music is the most powerful human activity. The most complex cloud in sky and landscape can be described by a Fractal/Anlog mathematical equation. This is the reason that a philosopher must know Mathematics, Poetry, Musics as **Omar Khayyam**.

A system of symbols related according to pre-established rules is called an *algorithm*. Algorithm is a variation of *algorism*, after **Al-Khowarizmi**—the father of algebra (780-850 A.D.). The simplest example of an algorithm is the mathematical system of decimal notation, popularized by Al-Khowarizmi. An algorithm is essentially a “*thinking*” machine, a means of performing operations on symbols that give results otherwise difficult to attain. The symbolic system of language, and particularly of the artificial languages called *mathematics* and *science*, develops into thinking machines. Calculating and thinking machines, mechanical or electronic, are the materialization of algorithms.

Mathematics deals with quantities and is a body of knowledge, more than a method, an art, or a language. Mathematics is an art with a beauty of its own. Mathematics has been the language of science and is now the body language of Eventics. Mathematics is an indispensable tool by which and within which we express, formulate, continue, and communicate ourselves.

Mathematics specifies and expresses thoughts and processes of thinking and create them in turn. It specifies, clarifies, and creates rigorously workable concepts, and is an indispensable constituent of concepts creation and emergence as well.

Mathematics itself is an *event*. The characteristic of mathematics is its symbolic language just as the symbolism in music.

In its broadest aspect and conventional language mathematics is a spirit, the spirit of rationality. It is this spirit that challenges, stimulates, invigorates, and incites human minds to exercise themselves to the fullest. It is this spirit that seeks to influence decisively the physical, moral, and social life of man, which seeks to answer the problems posed by our very existence, which strives to understand nature and exerts itself to explore and establish the deepest and outmost implications of knowledge already obtained.

Mathematics is a living plant which has flourished and languished with the rise and fall of civilizations. Mathematics has been a major force in molding modern culture, as well as vital molding element of that culture.

The mathematical techniques are only mathematics stripped of motivation, reasoning, beauty, and significance. Mathematics is also a method of inquiry known as postulational thinking. Mathematics is a creative activity with motive to answer questions arising out of social needs. It is a universal tool and provides a rational organization of natural phenomena, with motive to search for beauty. As **Russell** states:

“Mathematics, rightly viewed, possess supreme beauty”.

Mathematics provided a firm grip on the workings of nature and understanding by dissolving mystery and replacing it by law and order. Mathematics had demonstrated the capacities, resources, and strengths of human reason. The power of mathematics was appreciated during the Age of Reason, when the mathematical method-

ology with its concepts were applied to human affairs, such as philosophy, theology, ethics, aesthetics, and the social sciences. The Age of reason is gone, and now, to doubt everything or to believe everything are two equally convenient solutions; both dispense with the necessity of reflection.

Mathematics and physics are to be considered as different aspects of a single universal *whole*. They are not regarded as separate structures.

Jeans said: “We can never understand what *events* are, but must limit ourselves to describing the patterns of events in mathematical terms”. We can mathematize the general language for developing *implicate* and *explicate* orders in a coherent and harmonious manner. Mathematics is not so much about orders in the material world but about the process of thought. This was also supported by **Grassmann**, who developed an Algebra of ‘*becoming*’, and by **Hamilton**. The ‘*becoming*’ aspect of mathematics, extended by **Clifford** was based on the ideas of Grassmann and Hamilton.

Babylonians—late **Persians**, were the first people to create much of early mathematics, and contributed to the main course of mathematics at about 4000 years ago. They left behind thousands of clay tablets written in cuneiform, some of which reveal their number system and their discoveries in algebra and geometry. They developed a superior arithmetic and algebra that is considered to be the source of some of Euclid’s knowledge of algebra. Babylonians covers a series of people, who concurrently or successively occupied the area around and between the Tigris and Euphrates rivers, a region known as Mesopotania. They lived in **Babylon**, **Susa** the cap-

ital city of **Susiana**, Ur, and a few other cities. They worshipped **Anahita**, goddess of the waters and fertility, and **Mithra**, the sun god and god of justice.

Egyptians developed a superior geometry that was founded from soil of Egypt—*geo* meaning earth, *metron* meaning measure. Geometry is ‘*gift of the Nile*’ and ‘*gift of the artists of the city of Susa*’.

Greeks took decisive step in applying mathematics. They stated that the universe is mathematically designed and through mathematics man can penetrate into that design. **Thales** (624-547 B.C.) was the first Greek mathematician, fathered Greek philosophy, learned the elements of Babylonian and Egyptian algebra and geometry, and discovered the science of geometry.

The first group to offer a mathematical plan of nature was led by **Pythagorees**(585-500 B.C.). They expressed that mathematical properties are the essence (quiddity) of all phenomena. This essence was found especially in numbers and in numerical relationships. They stated that a number relationships underlie, unify, and reveal, the order in nature. The cream of mathematical work created by the men of the classical period has come down to us in the writing of two men, **Euclid** and **Apollonius**:

Euclid's most famous work is **Elements**; Apollonius of Perga (225 B.C.) major work is **Conic Sections**, which is the (foundational) mathematical means describing the world of events. The name Euclid pronounced *Uclidis* (*Ucli*-key, and *Dis*-measure or geometry), is equivalent to the *key of geometry!*

The application of *Conic Sections* in mathematics and physics is well known by most of us. In addition, **Aristotle** wrote on: mathematics, physics, metaphysics,

mechanics, logic, psychology, ethics, economics and many other fields.

Historically, **Omar Khayyam** solved general cubic equations geometrically by using *Conic Sections*. **Al-Biruni** (973-1051 A.D.) gave the law of *sines* for the plane triangle and a proof. **Abu'l-Wafa** explored constructions, which used a straight edge and a circle, introduced the *secant* and *cosecant*, and calculated table of sines and tangents for every 10 minutes of angles. The systematization of plane and spherical trigonometry was achieved by **Nasir-Eddin** (1201-1274 A.D.) in *Treatise on the Quadrilateral*.

Greek mathematicians were concerned with teaching men to reason abstractly and with preparing them to contemplate the ideal and the beautiful. This age has been unsurpassed in the beauty of its literature, in the supremely rational quality of its philosophy, and in the ideality of its sculpture and architecture. The Greek **mathesis** was both “mathematics” and “general knowledge”, which **Leibniz** tried to re-activate again. The scientific ideal would be a kind of pan-mathematism, which unites the knowledge of the formation of mathematical systems with the laws of living things, in accordance with the need of a *mathesis* of universality.

The emergence of the mathematical concepts of *function* and *derivative*, advanced mechanics that stood still for almost 2000 years. The mathematical concept of derivative is a master concept, **one of the most creative concepts in analysis**. Without it there would be no mathematical term for velocity, acceleration, motion, density of mass or any other density, electric charge, gradient of potential, wave equation and etc.

Mathematical formulation introduces challenging analogies and unifications. In the analysis, all information is quantitative, expressed in ordinary real numbers.

In mathematics, *analysis* deals with specific operations, namely with differentiation, integration and the mathematical *infinite* in many of its aspects. Its first important concepts are: A *function* (**Leibniz** 1692), continuity of a function, *derivative* (**Leibniz** 1676) of a function, integral (**J. Bernoulli** 1690) of a function, infinite sequence and infinite series. To start mathematical statement we impose on the functions some restrictions or *qualifications* to single out classes of functions with some particular features that includes certain “descriptive” properties such as continuity, differentiability, integrability, bounded variation, etc. By the 17th century, a general function was an expression which arose by performing a finite number of four basic arithmetical operations on basic functions such as x , x^2, \dots , $\sin x$, $\tan x$, $\arctan x$, $\log x$ and e^x . Thereafter, certain expressions appeared for certain functions in which an *infinite*, that is an unending, succession of operations was involved. The most important ones were the *infinite series*, and in particular, *power series*, **Taylor series** and *Fourier series*. Eventually, a comprehensive concept of function emerged in the first half of the 19th century.

6.2.4.1 Number

Primitive human, like a child, used fingers for check off counting, from which the word *digit* (meaning finger) derives.

Omar Khayyam and **Nasir-Eddin** clearly stated that: “Every ratio of magnitudes, whether commensurable or incommensurable may be called a *number*”, a statement **Newton** reaffirmed in his *Universal Arithmetics* of 1707.

Leibniz was an advocate of the number system that existed among the primitive men—the *binary* system, i.e., of base two. It is the mystical elegance of the binary system that made **Leibniz** exclaim: “*one suffices to derive all out of nothing.*” This is the **nothing**. of **Eventics** that is full of everything!

As **Laplace** said: “Leibniz saw in his binary arithmetic the image of *creation*”.

Leibniz imagined that *Unity* represented *God* and *Zero* the void (*nothing*), just as unity and zero express all numbers in his system of numeration. This notion of Leibniz is well taken in **Eventics** and as it will be seen later, it is incorporated in the foundational principle of **Nothingness** of Eventics.

A number is only intelligible if it remains identical with itself, i.e., the assertion of equality of $N = N$, whether it be a matter of: continuous or discontinuous qualities; quantitative relations; or sets and numbers conceived in thought. In every case, the conservation of something is postulated as a necessary condition for any mathematical understanding. **Piaget** intended to show that conservation is not an innate idea, but is constructed during *child* development, inseparable from the ideas of *quantity* and *number*.

6.2.4.2 Complex Variable presented and extended by this Author

Mathematicians tag numbers in algebra by dual signs (+ and -), representing two directions in a *plane* 0, introducing *two types* of numbers such as +1 and -1, and a functional (not a structural) entity $\sqrt{-1}$. That is, the imaginary $i = \sqrt{-1}$ exists only when the mathematician is using it; outside of that, it doesn't exist. **Gauss** introduced the term *complex numbers* and used "i" for $\sqrt{-1}$, which led to a branch of mathematics called the *complex variables* that includes the complex numbers in the complex plane of $z = x + iy$. The advantages of the complex variables analysis is due to the fact that we deal with two variables simultaneously (*two-fold*) in addition to the special properties of complex functions set forth by **Cauchy**. **Hamilton** introduced the *quaternions* numbers comprised of four components represented by $a + ib + jc + kd$ in which $i = j = k = \sqrt{-1}$ obtained from his famous formulas carved on a stone on Brougham Bridge: $i^2 = j^2 = k^2 = ijk = -1$. **Grassmann** created a variety of algebras and numbers what are now called *hypernumbers*.

Another new extension of this concept is given in this Eventics book, where two *complex planes* +1 and -1 are used in place of plane 0, which leads to *four types* of numbers (two for each plane) of:

$\alpha = \pm 1$, $\beta = \mp 1$, $\gamma = \pm 1$ and $\lambda = \mp 1$, and the functional entities $i = \sqrt{-1}$, $j = \sqrt{+1}$ and $k = \sqrt{\mp 1}$.

This leads to another branch of mathematics with complex hypernumbers:

$$\mathbf{v} = \mathbf{x} + \mathbf{i}\mathbf{y} + \mathbf{j}\mathbf{z} + \mathbf{k}\mathbf{t}$$

where the four variables (*four-fold*) are present simultaneously. This concept can be extended to include the infinite-fold of numbers, introduce by the present author, in place of our present conventional *two-fold* numbers +1 and -1.

6.2.4.3 Algebra and Algorithm

The word algebra comes from a book written in 830 A.D. by Al-Khowarizmi, with the title *Al-jabr w' al-mugabala*. To him we owe the words

Algebra Algorithm

Muhammad ibn Musa al-Khwarizmi (780-850 A.D.), formerly Latinized as Algoritmi, was a Persian scholar in the House of Wisdom in Baghdad who produced works in mathematics, astronomy, and geography during the Abbasid Caliphate. **Al-Khowarizmi** was a scientist, mathematician, astronomer/astrologer and author, born in Khwarizm of Persia, now Khiva of Uzbekistan). He developed the concept of an algorithm in mathematics, and is thus sometimes given the title of “grandfather of computer science”. The words “algorithm” and “algorism” derived ultimately from his name. He gave shape to the discipline of **algebra**, a word that is derived from his 830 A.D. book on the subject, *Hisab al-jabr wa al-muqabala*. Al-Khowarizmi’s mathematics is done entirely in words with no symbols being used. He was born in a Persian family and his birthplace was Khwarezm in Greater Khorasan (modern Khiva, Xorazm Region, Uzbekistan).

The term “algorithm” is derived from the algorism, the technique of performing arithmetic with Hindu-Arabic

numerals developed by al-Khwarizmi. Both “algorithm” and “algorism” are derived from the Latinized forms of al-Khwarizmi’s name, Algoritmi and Algorismi, respectively.

Abu Jafar Muhammad ibn Musa Al-Khwarizmi Also known as Al-Khwarizmi(which is spelled in several ways), he is no doubt the best known of the Persian mathematicians. Indeed, his books were studied long into the Renaissance. By reason of his work on algebra Al-Khwarizmi is called the Father of Algebra. Al-Khwarizmis most important treatise classifies the solution of quadratic equations and gives geometric methods for completing the square. No symbols are used and no negative or zero coefficients were allowed. Al-Khwarizmi also wrote on Hindu-Arabic numerals. The Arabic text is lost, but a Latin translation, Algoritmi de numero Indorum, which in English is Al-Khwarizmi on the Hindu Art of Reckoning, gave rise to the word algorithm deriving from his name in the title.

His book Al-jabr wal Mugabala, on algebra, was translated into Latin Both “algorithm” and “algorism” are derived from the Latinized forms of al-Khwarizmi’s name, Algoritmi and Algorismi,

1. Al-Khwarizmi (crater) A crater on the far side of the moon named for al-Khwarizmi.
2. Khwarizmi International Award An Iranian award named after al-Khwarizmi.

Also, note:

1. Khwarizmi statute in Amir Kabir University, Tehran

2. A stamp issued September 6, 1983 in the Soviet Union, commemorating al-Khwarizmi's (approximate) 1200th birthday.
3. Statue of Al-Khwarizmi in his birth town Khiva, Uzbekistan.

The word *Al* (the) -*jabr* (to set, to restitute) meant “restoring” the balance in an equation by placing on one side of an equation a term that has been removed from the other side. *Al-mugabala* meant simplification of terms.

The Greatest Mathematical Progress Began by al-Khwarizmi in 830 A.D.

al-Khwarizmi dealt with three types of quantities: the square of a number, the root of the square (i.e. the unknown), and absolute numbers. He notes six different types of quadratics:

1. $ax^2 = bx$
2. $ax^2 = c$
3. $bx = c$
4. $ax^2 + bx = c$
5. $ax^2 + c = bx$
6. $ax^2 = bx + c$

He first reduces an equation (linear or quadratic) to one of six standard forms:

1. Squares equal to roots.
2. Squares equal to numbers.
3. Roots equal to numbers.
4. Squares and roots equal to numbers;
e.g. $x^2 + 10x = 39$.
5. Squares and numbers equal to roots;
e.g. $x^2 + 21 = 10x$.
6. Roots and numbers equal to squares;
e.g. $3x + 4 = x^2$.

THE GREATEST PATHWAY FOR HUMAN ACHIEVMENT WAS INTRODUCED by Napier in 1594 A.D. along with the **GREATEST SIDE-EFFECT**. He created a HOLE that all greatest human being fell into it, including Galileo, Newton, even Libniz, Whithead and A.A.Robb.

Napier generalized al-Khwarizmi limited **6** eqations by introducing the **Zero “0” Equation**. Napier moved all terms of an equation to one side, and where the other side was **<nothing>**, “**empty**”, “**blank**”, he used “**0**”. That side of **<Nothing>** was really equal to the other side. This **<Nothing>** can take any value and “**0**” is only one of the **unlimited values**. This is the greatest damage to our understanding of universe. **Nothingness** is the central presentation of Eventics and opens the door to the unlimmited advancement.

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CHAP. 10.—OF THE GENERAL PREPARATION OF EQUATIONS.

1. *Preparation* is the reduction of rude equations to more perfect ones, which are afterwards reduced to the most perfect real equations by expositions; thus $5 \alpha Q = 20$ is first prepared, and become $1 \alpha Q = 4$, then it is expounded $1 \alpha = 2$; the mode of preparation shall now be laid down; the modes of reducing shall afterwards appear.

2. Rude equation are prepared and made conspicuous in five ways: by *transposition*, *abbreviation*, *division*, *multiplication*, and *extraction*. Of these modes the rules and examples follows.

3. If you transfer a term from one part of an equation to the opposite, and prefix the opposite sign as *ductrix*, the parts are equal, and this is called transposition: as thus in this equation $4 R - 6 = 5 R - 20$, if -20 be transposed from the posterior to the prior part of the equation, and the sign changed in this form, $4 R - 6 + 20 = 5 R$; again, transpose $4 R$, and you have $-4 R$, in this form $-6 + 20 = 5 R - 4 R$; so of this equation $1 Q - \sqrt{Q} \cdot 3 Q - 2 = 3\alpha$, transpose $-\sqrt{Q} \cdot 3 Q - 2$, it becomes $+\sqrt{Q} \cdot 3 Q - 2$ in this form, $1 Q = 3\alpha + \sqrt{Q} \cdot 3 Q - 2$; and again, transpose 3α , that gives -3α in this form, $+Q - 3\alpha = \sqrt{Q} \cdot 3 Q - 2$, and the opposite parts are equal as before.

4. If (as premised) you transpose all the terms of one side of an equation to the opposite side, the whole compound will be made equal to *nothing*, and this is called *an equation to nothing*; and, by the 4th prop. 2c. of this book, ought to be abbreviated: thus, in the above example $4 R - 6 = 5 R - 20$, transpose $5 R - 20$, and you have $-5 R + 20$ in this form, $4 R - 6 - 5 R + 20 = 0$, which abbreviated, becomes $-1 R + 14 = 0$, and is an equation to *nothing*; so, in the equation $1 Q - \sqrt{Q} \cdot 3 Q - 2 = 3\alpha$, transpose the left side to the right, and you have $0 = -1 Q + \sqrt{Q} \cdot 3 Q - 2 + 3\alpha$, which is also an equation to *nothing*.

Algebra, in the broader sense used today deals with operations upon symbolic forms. Of course, algebra is in itself a limited form of mathematization. There are many books in math that covers various subjects in mathematics. We need ultimately to proceed to other *orders* of mathematization involving ‘*rings*’ and ‘*lattices*’ or to evolve to still more general structures as yet to be created.

Each mathematical symbol corresponds to an operation (transformation and/or metamorphosis). If we introduce a *unit operator* (one which leaves all operations unaltered in multiplication) and a *zero operator* (one which leaves all operations unaltered when added), we will have satisfied all the conditions needed for an *algebra*.

An *algebra* contains key features similar to key features of structures built on *implicate orders*. Therefore, an algebra makes possible a relevant mathematization that can be related to the general language for discussing *implicate orders*. Also, the quantum theory is expressed in terms of linear operators (including a *unit operator* and a *zero operator*) and can be put in terms of such an algebra. The real meaning of the *quantum algebra* is that it is a mathematization of the general language.

Clifford Algebra

Clifford algebra, in which every term is *properly nilpotent*, i.e., has the property that some powers of its terms are zero (say $A_n^s = 0$) and remain nilpotent when multiplied by any term of the algebra (so that $(A_i A_p)^j = 0$). An algebra that can be used to describe *invariant* can be obtained from any algebra by subtracting the *properly nilpotent* terms, which is called

the **difference algebra**. Every difference algebra can be expressed in terms of the products of a *matrix algebra* and a *division algebra*. Matrix algebra is an algebra whose rules of multiplication are similar to those of matrices, and division algebra is an algebra in which the product of two non-zero terms is never zero.

In division algebra, if the numerical coefficients are taken over the *field of the real numbers*, there become exactly three division algebras: 1) the real numbers themselves, 2) an algebra of order two that is equivalent to complex numbers, and 3) the real quaternions. If the numerical coefficients are taken over the *field of complex numbers*, the only division algebra is that of the complex numbers themselves.

6.2.4.4 Topology

Topology as a branch of mathematics, is concerned with those properties of geometric figures that remain invariant when the figures are bent, stretched, shrunk, or deformed in any way that does not create new points or fuse existing points. That is, there is a **one-to-one** correspondence between the points of the original figure and the points of the transformed figure, and with continuity property the transformation carries nearby points into nearby points. A rubber band can be deformed into a circle or a square that topologically is the same, but it is not topologically the same as a figure *eight*. As another example, by tracing a circle on a flat surface, we can preserve the inside and outside areas, but on a doughnut-like surface, inside a circle is its outside.

6.2.4.5 Exterior Calculus

Two major branches of calculus are: (1) Interior calculus that deals with the operation of the *dot* (\cdot) product, which has various names of scalar, inner, and direct product such as, $\mathbf{A} \cdot \mathbf{B}$; And (2) Exterior calculus that deals with the operation of *cross* (\times) product, which has various names of exterior, outer, vector, skew and the antisymmetric wedge (\wedge) product such as $\mathbf{A} \wedge \mathbf{B}$.

Another important development of geometry during the last 2000 years is: The concept of “*geometric object*”; every physical quantity can be described by a geometric object. This was first presented by **Klein** and formulated clearly by **Whitehead** (1932). The geometric objects are such as Points, Curves, Vectors, *differential form* or “*1-form*”,

Metric tensor, Gradient ∇ in flat spacetime, and Symmetric Covariant Derivative Operator ∇ in curved spacetime. “*1-form*,” *first rank* tensor, is a linear function of vectors, and a simple example of that is the gradient or exterior derivative “ $\mathbf{d}f$,” which represents a change in f in an unspecified direction as the elementary “*differential*” number df , but it needs a specified directional vector \mathbf{v} in order to be reduced to a number. \mathbf{d} is called exterior differentiation or exterior derivatives of differential forms.

Metric *tensor* is a machine with two slots for inserting vectors:

$$\mathbf{g} (\underset{\downarrow}{\text{slot1}}, \underset{\downarrow}{\text{slot2}})$$

For example:

- $\mathbf{g}(\mathbf{u}, \mathbf{v})$ = scalar product of \mathbf{u} and \mathbf{v} or $\mathbf{u} \cdot \mathbf{v}$
 $\mathbf{g}(\mathbf{u}, \mathbf{u})$ = squared length of \mathbf{u} denoted by \mathbf{u}^2

Mathematics of differential forms is called *exterior calculus*. Pictorially, differential forms are intersecting stacks of surfaces. *Differential geometry* and in particular *differential topology* is a branch of mathematics, which uses the geometric objects to study *differentiable manifold*. This mathematics is widely used in modern physics, in particular, in relativistic mechanics. (See *Gravitation* by Wheeler et al. for details) .

6.2.4.6 Operator

Mathematics essentially means the existence of an algorithm which is much more precise than that of ordinary language. As discussed earlier, *language* is a highly developed form of **symbolism**. One of the main tasks man has to deal with his apparent worlds has been to bridge between the *qualitative* and *quantitative* orders, for which ordinary language and mathematical language have been developed, respectively. The unique word that carries both *quality* and *quantity* features and ties these two languages together, is the celebrated word “**value**.”

All humen's thoughts can be expressed in a concise order by the mathematical operations. Mathematizing is a creative activity of man like language and art. But, the advantage of mathematics is that the phenomena most diverse from a qualitative point of view exhibit identical mathematical properties. As we mathematize language, there will arise orders, measures, and structures within the language. These orders, measures, and structures are different from that perceived in common experience and *explicate order*. In this language, we do not regard terms like ‘particles’, ‘charge’, ‘mass’, ‘position’, ‘momentum’, etc., as having primary relevance.

The fundamental language of mathematics is the **mathematical operation**.

Mathematics is an operational technique. That is, it is an operation of an **operator** on an **entity** (function). The *condition* asserted by the *operator* along with the corresponding **value** establishes the foundation for that branch of inquiry and interest.

To express the character of an entity in symbolic language, we make an *operation* on that entity and state

the *value*, which that entity assumes by this operation. Mathematically, we use equality expression:

$$\begin{array}{ccc} \mathcal{O} & X = \mathcal{V} & X \\ \text{operator} & & \text{value} \end{array}$$

Examples are:

1. $1_{op} X = 1_e X$ or $X = X$ *Unit operator*
operator eigenvalue
2. Vector transform *Linear operator*
3. Differential calculus *Differential operator*
4. Integral transform *Integral operator*
which includes operational
mathematics in complex variables
5. Other familiar operators are:
arithmetic operator; gradient operator;
variation operator, rotation operator.

We have to distinguish the **operator** (a mathematical operation) from the **entity** (a function) on which it operates. The word *transformation* is used to describe a simple geometric change within a given *explicate* order. The transformation is implemented by the operators such as displacement operators, rotation operators and dilatation operators. The word *metamorphosis* is used to describe implicate order in terms of different kinds of operations than translations, rotations, and dilatations. It indicates that this change is much more radical than the change of position and of orientation of a rigid body; it is more like the change from *caterpillar to butterfly*.

A. As an example, the mathematical operator of *derivative* represented by d/dx acts on a function—say x^2 gives a new entity $2x$. Certain functions behave in a peculiar way with respect to an operator. Functions (entities) that are merely recovered by a given operator to them are known as the “**eigenfunctions**” of this operator, and the numbers by which the eigenfunctions are multiplied after the operation are the “**eigenvalues**” of the operator. For example, operation of derivative operator d/dx on function “ e^{3x} ” gives “ $3e^{3x}$ ”, i.e., returns to the original function (eigenfunction e^{3x}) multiplied by a number, *eigenvalue* 3.

B. As another example, the unit operator (1_{op}) acting on an entity (function) X gives a new function X which is the eigenfunction of unit operator, and unit value (1) is the eigenvalue of that unit operator. This is a process to express the character of entity X (a characteristic function, **eigenfunction**) by the means of characteristic value (eigenvalue). Character is the combination of *qualities* or *features* that distinguishes one thing from another. The above conditional (implied in unit operator) identity also contains the foundation of the world of **oneness** that:

In the universe of physical and non-physical **quantity** and **quality**, **unity** operation on any *entity* gives a *unit* value for that *entity*.

Actually, the word *universe* is *uni + verse* meaning “*turned into one*,” derived from the French *univers* and the Latin *universum* and translated from the Greek “*to holon*” (the whole). This *unconditional unit* operation *condition* with the condition of **oneness** in the universe

is equivalent to the assertion of equality of Section 2.2 $A = A$. Therefore, the entire world of **oneness** is an eigenvalue problem similar to the frequency analysis in vibrations and wave propagation problems. This is another reason that some scientists refer to *events* as *frequencies*.

The **superworld**(omniwholeworld) is mathematically represented by the eigenfunction of the *unit operator* 1_{op} with eigenvalues of a “single” *unit* (1) value which is obtained by repeating the *unit operator*.

To each operator there corresponds an ensemble, a “*reservoir*” of numerical values; this ensemble forms its “*spectrum*”. A spectrum may be *discrete* or *continuous*. This spectrum is “discrete” when the eigenvalues form a discrete series. For example, a spectrum is discrete for an operator with all the integers 1, 2, . . . as eigenvalues; and is continuous when it consists of all the numbers between 0 and 1. All functions (entities) described by **vibrations** and **waves** are eigenfunctions with a *discrete* and a *continuous* spectrum, respectively. The eigenvalue problem addresses the search for some **entity** (the eigenfunction) that remains unchanged under the action of a known operator, except for multiplication by a scalar constant (the eigenvalue), which is its value for that operator. For example, in **vibration** problems a mass-stiffness matrix can operate upon the modal amplitudes eigenvectors yielding the *natural frequencies* eigenvalues. The axes-rotation matrix operates on the principal axes eigenvectors yielding the *principal moment of inertia* eigenvalues.

Similarly, the *quantum mechanical* analysis of atomic systems is primarily an attack on the eigenvalue problem. One of the foundational postulates of quantum mechanics

is the principle of *quantized*, which states: Information about the system's state resides in an **eigenfunction** rather than in an equation of motion, and the physical observables in a system may assume only such **values** as are defined by the eigenvalues associated with the eigenfunctions.

Mathematically, the eigenvalue equation which, also involves derivatives is:

$$\hat{\mathcal{O}} \ X = \mathcal{E}_o \ X$$

or the familiar equation:

$$\hat{\mathcal{D}} \ \psi = \mathcal{E}_D \ \psi$$

where \mathcal{E}_o (the eigenvalue) represents the possible values of the observable (the parameter) $\hat{\mathcal{O}}$, and X (the eigenfunction) generates information about the state of a system. The *caret* indicates that a variable (parameter) in classical physics has been replaced by its operator as dictated by the principle of *operator correspondence*. This last principle states that: For each relationship among physical variables in classical mechanics when *no derivatives* are involved, there is a corresponding relationship in quantum mechanics where the *variables* are replaced by the appropriate *operators*. Two examples of the qualitative aspects of the quantum eigenvalue problem are:

When the observable item of interest is the **position** x of a particle, then

$$\hat{x} \ X = \mathcal{E}_x \ X$$

And when the observable item of interest is the **momentum** p of a particle, then

$$\hat{p} \ X = \mathcal{E}_p \ X$$

In classical mechanics, the state of a system changes in smooth, continuous, differentiable fashion, and the *equation of motion* furnishes a complete description of the system. In quantum mechanics, the permitted *discrete* states (the quantized states) are defined by an eigenvalue equation. That is, the variables that describe the behavior of particles change by discrete intervals rather than continuous intervals. This implies that the classical mechanics and the quantum mechanics at two separate levels touch naïvely on two different aspects of **continuous** and **discrete** orders of our apparent worlds.

6.2.4.7 Eventics Algorithm

In **Eventics**, the so-called physical laws described in classical physics are also a set of postulates similar to quantum mechanics. Variables involved in these postulates are to be interpreted as *mathematical operators*.

With the use of computer, the scope of mathematics is continuously expanding and tedious operations become simple. This is achieved by application of *Symbolic Manipulation Programs* that can perform mathematics in the symbolics of algebra, calculus, matrices, and tensor analysis. Symbolic Manipulation Programs can be used in developing new mathematical theories. They provide a large and growing knowledge base of definitions and algorithms spanning all branches of mathematics. They can be also expanded to include new definitions, rules, operations, algorithms, etc. Because of the wide scope of Eventics, usage of Symbolic Manipulation Programs is inevitable for carrying out the Eventics algorithm.

6.2.5 Quantitative Concepts Qualitative Percepts

Quantitative concepts emerge from our practice of applying numbers to what we call natural phenomena. This is an attempt to construct the *relations* between entities in such a way that often we refer to them as the *laws of nature*. This occurs in the realm of apparent worlds in which things could be, at least theoretically, separated from each other and counted. A similar process occurs for the qualitative percepts. But, qualitative percepts come to our attention so directly that we consider them as part of “*nature*”, such as colors and etc. The **Quantum** question is the *physics* aspect of the world from quantization of the world. The **Qualtum** question is the *mystical* aspect of our apparent worlds from qualitization of the world. For any entity, we first develop a qualitative percept of that entity such as *space-percept* (S_p) and then develop quantitative concept of that entity such as *space-concept* (S_c). Perceptual space is the space of a conscious being who is experiencing or recording sensation. Conceptual space has no existence except in the mind of man who is creating it by thinking of it. It should be noted that only by the *quantitative* concept can we construct *relations* between the entities.

For example, without the derived concept of temperature we have to speak of something as “very hot”, “hot”, “warm”, “cool”, “very cold” and so on. The quantitative concept of temperature increases the efficiency of our vocabulary. This can be done also for colors and etc., as evidenced by computer usage such that any statement and item is converted into logical binary numbers by digitiz-

zation. The concept of temperature, originally taken as a qualitative expression of heat sensation, became quantitative notion, and finally formed an integral part of the *kinetic* theory of matter.

The advantages of *quantitative* concepts are so great that no one today would think of proposing to abandon them and return to a prescientific *qualitative* language. We want to make them more and precise as the science advances. However, we should not fail to realize that quantification (counting and measuring) is a human activity imposed on our knowledge of reality.

The quantitative concepts enable us to formulate quantitative laws. Expressing man-made nature by quantitative concepts—concepts with numerical values—we set up procedures for arriving at those values. The simplest way is counting. Based on our ten fingers we adopted the *decimal* number system—**man is the measure of all things**. The more refined procedure is measurement. The quantitative concepts give values that are expressed by rational numbers (*integers* and *fractions*) and irrational numbers, and makes possible the application of powerful mathematical tools, such as *calculus*, and increases the efficiency of the scientific method. This is increasingly noticeable by the advancement of computer technology and its applications.

6.2.5.1 Summative and Constitutive

Both *summative* and *constitutive* characteristics are pertinent to our concept development.

Summative characteristics of an element are obtained by means of summation of characteristics and behavior

of elements in isolation. Examples are weight, and heat as the sum of movements of molecules.

Constitutive characteristics are those that are dependent on specific relations within the complex, such that we must know not only the parts, but also the relations between them. One example is *stress-strain* relationship in a structural element.

We also have concepts, such as length and weight whose magnitudes can be combined or joined to produce a new magnitude. These magnitudes are called **extensive** magnitudes. There are also other concepts to which this operation does not apply, such as temperature, pitch of sound and hardness of bodies; those magnitudes are called **inextensive** or non-extensive magnitudes.

Spatial length, for example, is extensive magnitude, i.e., by joining two line segments, a and b , we have:

$$L(a * b) = L(a) + L(b)$$

Some extensive magnitudes are **additive** such as velocity in *classical physics*, whereas some extensive magnitudes are not additive, such as relative velocity in the *special theory of relativity* such that:

$$V_3 = \frac{V_1 + V_2}{1 + \frac{V_1 V_2}{C^2}}$$

which is additive in the first order of approximation $V_3 = V_1 + V_2$ leading to classical physics. Or by dividing both sides by the speed of light C :

$$V_3/C = \frac{V_1/C + V_2/C}{1 + V_1/C \times V_2/C}$$

which is comparable with hyperbolic tangent addition:

$$\operatorname{Tanh}(\theta_1 + \theta_2) = \frac{\operatorname{Tanh}\theta_1 + \operatorname{Tanh}\theta_2}{1 + \operatorname{Tanh}\theta_1 \times \operatorname{Tanh}\theta_2}$$

That is, by letting $V_1/C = \operatorname{Tanh}\theta_1$ and $V_2/C = \operatorname{Tanh}\theta_2$, then $V_3/C = \operatorname{Tanh}(\theta_1 + \theta_2)$, where θ_1 and θ_2 (called rapidity) are additive.

Furthermore, considering the usual concept of length, we can say spatial length is also an extensive additive magnitude.

That is:

$$L(a * b) = L(a) + L(b)$$

Joining Adding

6.2.5.2 Rational and Irrational Numbers

The customary procedure of *measuring* can be applied to yield a measured value of any positive rational integers and fraction numbers. That is, the *direct measurement* can give only values expressed as *rational* numbers.

When we formulate laws, and make calculations with the help of those laws, then *irrational* numbers enter the picture. That is, they are introduced in a theoretical context, not in the context of the direct measurement.

The occurrence of irrational numbers is due to the existence of a complex wholesome quality of *holoevent* of the real world, which is translated into our apparent worlds in terms of *rational* and *irrational* numbers. The irrational numbers occur in terms of non-measurable quantity and *serial* repetitions.

When we abandon irrational numbers and work only with rational numbers resulted from direct measurement, we cannot use calculus and formulate laws as **differential equations**. Hence, the **differential calculus** conform with the existence of the irrational numbers in the real world. In that system, space and time dimensions individually are *discrete*, and we formulate laws by differential equation, and the laws of physics would then deal solely with integers of stupendous size. In each millimeter of length, for example, there would be billions of the minimum unit. The values would be so close to each other that, in practice, we would proceed as if we had a continuum of real numbers.

We also have undifferentiable mathematics with example such as ‘**Monster**’ curves described by Canter, Von Koch and Peano.

Also, in Real world as described by Eventics, we have countless (non-countable) continuum that is beyond the undifferentiable, and for which no mathematics has been developed.

In discrete process the minimum value for *length* (space) has been suggested as “**hodon**” and the minimum value for *time* as “**chronon**”.

6.2.6 Space and Time

Space and *time* as the instruments created by human are names for the possibilities of certain relationship between occurring **events** in our apparent worlds. The series of events do not occur in pre-arranged space and time. Ordinary relativistic mechanics incorrectly introduces the concept of “**event in space-time**”.

However, only **A.A. Robb** rightly believed in *space-time in event* in 1914, and formulated the relativistic mechanics on that basis. But, his approach has been ignored by most physicists until 1960’s.

Eventics takes on space-time in event and the subtle is **Event** .

In physics, all the phenomena of physics happen or take “*place*” within the framework of the *space-time* continuum.

In **Eventics**, all the phenomena (occurrences) of Eventics of *real* world occur within the **Holoevent** and concurrently within the **Ominevent Eventum** of the Omniwholeworld (Superworld).

Space and time are derived from the primitive unified concept of *bulk space* and modern *space-time*. There is no limit mathematically to the number of dimensions a space may possess. It is probably chosen to be three dimensional based on the perception of our own geometry. Space and time are convenient concepts intended to assist us in acquiring knowledge about the **events** with the hope of accessing the inner secrets of the events. Therefore, in our system of knowledge of physical world, space and time are to be found in occurring universe as the partial description of the events and certain relationships between them. Separation of space and time is an

approximate operation to the unified *space-time*, leaving some properties inseparable under any circumstances. In some common language, time is always attached to place in conversation. It should not be supposed that *time* is another form of *space*, or what four dimensional space-time has the quality of our usual space and time. This four dimensional space-time is an entity with four dimensions. We can construct mathematically a hypothetical world of n spatial and m temporal dimensions, not just integer, but fractional as in Eventics of apparent world and non-separable countless continuum in real world. However, we have no possible answer to what hat world would be like in our present human understandings.

It is interesting to note that **Hinton** expressed in 1880 that, space is four dimensional (x, y, z, w) and time is two-dimensional (t, s), and questioned why not higher dimensions. **Dunne**(1959) introduced the *serial time* with infinite dimensions, and **Dobbs** introduced “*complex time*” in a sense similar to the two-dimensional time of **Broad**. In the *complex time*, the usual temporal dimension is called “*transition time*” and the imaginary quasi-spatial time of Minkowski is called “*phase time*”:

$$t_c = t_1 + i t_2$$

The original concept of the *mixture* entity of space and time was very obscure and analogous to the pre-personal concept of space and time in the early stages of child development. Then, human in searching for *simplicity* developed the concept of separation of space and time in order to interpret the events within the scope of his understanding, whereby he can benefit toward his advancement. However, the separate concepts of space and time

gave human a very narrow picture of his apparent worlds, and provided him only with limited knowledge about the events. As a result, he tried to improve his position by introducing a new entity—a special mixture of space and time, called *velocity*. By means of these three concepts he hoped to achieve better insight about events. Eventually, modern physics wove these three concepts together and established a unified concept of *space-time* that contains only a special mixture of space and time, i.e., the speed of light. In this concept, the spacelike cut (slice), for example, through spacetime gives a momentary configuration of space. More recently, on the same ground, physics generalized this idea of unification by introducing the concept of *metric*, which serves a general unification of space and time. Similarly, **Wheeler** developed the concept of *superspace*, in which various space configurations are represented by points within superspace such that the spacelike slices through spacetime lie on a single bent leaf of history, and cutting its thin slice through superspace. Nevertheless, the original concept of mixture of space and time by primitive human was more complex and has not yet been accommodated.

According to **Kant**, *space* is largely a creation of our own minds, and space and time are not objects we observe, but ‘forms’ to which experience must conform if it is to be intelligible. **Newton** imagined *time* in the same manner as his predecessor, and to carry out his dynamics he assumed:

Absolute, true and mathematical time of itself and from its own nature flows equally (uniformly) without relation to anything external.

Although, the flaw is “*flow*” must be considered with

respect to a reference frame. He *assumed* it this way in order to formulate his *equations of motions*, and then and only then could he say, ‘a train will be at this station at 7 pm’; otherwise, if he had an accelerated time (clock), then the train will be there at 11 pm (say). **Einstein** postulated that the speed of light as the fastest communication, is the same for all observers at rest or moving uniformly in a straight line. The flaw is that the speed is derived from the separate concepts of space and time. Therefore, in both **Newton**’s and **Einstein**’s physics, two separate concepts of space and time are assumed, and it is assumed that *space spreads uniformly* in a space continuum, and *time flows uniformly* in a time continuum. The counting based on [1, 2, 3 ...] *Integers* and not *Fractal* nor *Alpha* and not *Countless* (non-countable) of Eventics.

According to physics, our common-sense concepts of space and time had to be considerably modified when the behavior of matter at very small distances was investigated. The usual concepts of a separate space and time is unacceptable; instead, they must be combined into a four-dimensional space-time continuum. On the other hand, over very large distances and for large masses, space-time is distorted by the *matter* present. Similarly, other conditions require other modifications to our concepts. Space has been considered as a continuum (*manifold*) that can be covered by a *complex* which is a form of explicate ordering of space. At the ultimate extreme, *supercollapsed* objects or *black holes* can make *time* stand still in their vicinity. It is also true to say that *time* in the *microworld* will never be the same as time in the *macroworld*. In our everyday world, time is

continuously measurable. But, in the world of subatomic particles, time is manifested as a mathematical symbol, entirely unrelated to the time measured by a wrist watch.

Space is not just a simple “container”. It is the totality of the relationships between the bodies we perceive. This is true for time and for inseparable whole *space-time*.

At **holoevent** the idea of common *time* makes no sense, since there exists absolutely nothing around that can be used to mark it off with. That is, when there are no series of events, then there is *no time* as such, and the question of simultaneity comes about only in our apparent worlds where we have the series of events and the introduction of time.

The usual relativity theory uses the *space-time* continuum and is concerned with one aspect of the physics. The quantum theory in a sense, uses the separate concepts of *space* and *time*. Both theories introduce some relational concept between *space* and *time* variables and bring about certain advancements in science. However, these theories do not go far enough as required by **Eventics**. These radical alterations of our common-sense expectations have been forced upon us by our use of the scientific method. Alterations in our mode of explanation of the universe have always been due to a clash between predictions made by our scientific theories and actual experimental observations.

6.2.7 Units of Space and Time

Unit of length: Our choice of measurement of length and time is a matter of *convenience* and *assumptions* in trying to obtain a simple description of the world. It is our passion for **simple** laws that has induced us to adopt them regardless of the *inner* quality of **holoevent** of the real world.

To develop the concept of length we need to introduce a unit of *space measurement*. Customarily, we choose a relatively rigid body as our standard measuring rod because this choice resulted in a greater **simplicity** of our so-called “*natural*” laws.

With our present knowledge, if we choose to take a rubber rod as our unit of length, we would find very few bodies in the world that were relatively rigid to our standard, and our description of nature would, therefore, become enormously complicated. For the above purpose, we need a rigid body that always remains exactly the same length, and one that will not alter its shape or size.

However, it should be realized that a “*defined*” *rubber-like* unit of length and time could bring some new descriptions of the world within the human knowledge or make some existing ones simpler, although the circular process of defining this unit is very complex. In such a system of units, some motions, for example, appears motionless, similar to, but not the same as the idea of relative motion with respect to a moving reference frame. There is no logical reason preventing us from choosing the *rubber-like* rod for measurement and then paying the price by developing a complex formulation to deal with a world of enormous irregularity. Therefore, the choice is *conventional*.

Similarly, if we choose a length as our unit, regardless of changes in its temperature, magnetism, velocity and so on, we are again confronted by a complex process. Conveniently, in physics, for **simplicity**, we introduce correction factors depending on such changes, and deal with “*natural*” laws corresponding to a relatively rigid body measurement. For example, we formulate the “*natural*” laws based on a rigid length L_o at normal temperature T , then we introduce a correction factor for the length at different temperature by the following linear relationship or other higher order relationships:

$$L = L_o[1 + \alpha(T - T_o)]$$

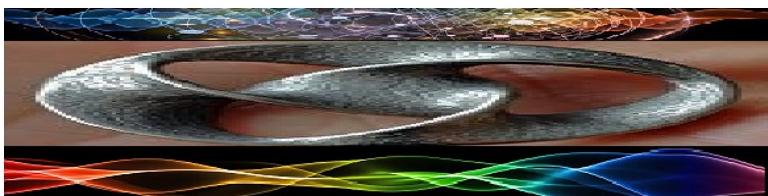
Consequently, two lengths are additive only when they have the same conditions of temperature, magnetism and etc. Let us define a rod as rigid when the distance between any two points marked on the rod remains constant in the course of *time*. However, we would have to introduce the concept of length in order to determine that the length remains constant. It is seen that the *constancy of length* depends on the concept of time, temperature and other items. Therefore, we are trapped in a sort of *circularity*. To escape this vicious circle, we adopt the approximation procedure, and start out with a *relative* instead of an *absolute* concept. We find, empirically, that there is one very comprehensive class of bodies that are approximately rigid relative to each other. Conveniently, we live in the apparent worlds where all metals are relatively rigid with respect to each other. Then, by iterative operation we take one of metals as the rigid body measurement of our standard unit.

Unit of time: With respect to *time measurement* we also have to go through iterational operation and adopt an approximate standard of unit. The joining operation of time intervals is very complicated, because time as a separate entity does not have a hard edge that can be put together to form a straight line, For example, there is no way to join the intervals of two separate events that have occurred not adjacent in time. The best we can do is to represent the two time intervals on a conceptual scale.

Suppose we have two events a and b , and that the initial point of b is the same as the terminal point of a so the two events are adjacent in time. In a conceptual way we join these two interval as:

$$t(a * b) = t(a) + t(b)$$

To determine the unit of time we use some type of periodic process involving a sequence of events. However, we have to have a method for determining *equal intervals* of time of successive occurrences. In the case of time, we are also so trapped in a sort of *circularity* that we adopt an approximation procedure based on iterative operation.



Part II

THE FOUNDATION

Expanded
in this Edition

Chapter 7

Eventics Introduced

The part I as a stepping stone towards Eventics provided the introductory account of Eventics. It introduced the terminology, historical and conceptual background for Eventics.

The following Four Chapters aim at the foundation of Eventics:

Chapter 8 Eventics of Apparent Worlds

Chapter 9 Eventics of Ultimate Apparent Worlds of Nothingness

Chapter 10 Eventics of Real World with Holoevent

Chapter 11 Eventics of Superworld of Supreme Wholeness Eventum

In Subsection *Algebra Algorithm*, it was expressed:
THE GREAT MATHEMATICAL PROGRESS BEGAN
by **al-Khwarizmi** in 830 A.D., and then in 1594 A.D.:

**THE GREATEST PATHWAY FOR HUMAN
ACHIEVEMENT WAS INTRUDUCED** by Napier.

Here is to set forward the **Eventics Revolution !!!**

When we develop an Equation, we now realize that by moving right side to the left, we will have right side that is a “Blank”, “Empty” or “Nothing”, that can have unlimited value, beyond the quantity and quality of the left side, and customary quantity “Zero 0” is only one of the unlimitted values. That is “Nothing” of Eventics means Everything beyond Apparent Human reach.

Therefore, we preserve the greatest of Al-Khwarazmi algorithm, and Greatest of Napier pathway **without his side-effect**

With our present HUMAN knowledge and capacity, this book only addresses the Eventics of Apparent Worlds in detail. The other Chapters will be very brief at this time. It is a long journey for human to deal with the Chapter 9 and 10, after attending fully to the foundation of the Chapter 8.

7.1 Concept of Equality

As for the symbol $=$, human tried to introduce a symbol for the concept of equality logic, as **Robert Recorde** by 1550 A.D. introduce a pair of long parallel lines of the same length \equiv for “**is equal to**”. This symbol is used to define an **Equation**.

However, the meaning of equality could not be for certain as the symbol \leadsto (gives, leads to), or \parallel (parallel plausible) have been considered, or visualized as tunnel from one concept to other concept. The point is what “*equal to*”, “*the same as*” or “*similar to*” is. Do they mean the same thing? The symbol short $=$ is not a simple definition of a balance scale confirming that two items are nearly equal are the same thing, it is a device for directing attention to fresh realms. When we say 2 plus 2 equal 4, we already implied many assumptions. The question is 2 of what plus 2 of what is equal 4 of what. Even, we do not mean apple and orange, still question remains of rotten apple and good apple. The practical equality and all practical mathematical concepts are for human day to day convenience and progress, and are not part of the true reality.

We should be clear and differentiate the three different equalities: (**equal = quantity**); (**equal \iff quality**); and (**equal \parallel value**), which is more than other equalities.

Conveniently, we develop our norm and standard in accordance with our mental capacity. When any action goes beyond these limits, we categorize it as unacceptable and paranoia and so on. We could be as incapacitate people that hang over each other as building or we may be in respectable path until we reach the limit of our

mental capacity when suddenly snap out. The limit for some is in the close vicinity and for others distance away. Who is to judge the correct limit and normal or standard.

Right and Wrong are quantity and quantitative. Good and Bad are quality and qualitative. These simplified relationships are only and only good and right to the extend of the defined entities and symbols.

7.2 Concept of Zero and Nothing

For over 1000 years, Babylonian had a *place-value* (positional) number system, but never used empty place indicator until about 700 B.C. when they used three hooks or a single hook to indicate an empty place, and around 400 B.C. they used two wedge symbol in cuneiform writing.

There are two uses of zero:

Examples are:

1. use of zero as a number in the form we use it today as “0” number.
2. use of zero as an empty place indicator in *place-value* number system (21_6 to be different than 216).

Greek begin their contributions to mathematics around the time Babylonian begin to use zero as an empty place indicators in place-value number system. Here we found the first use of the symbol zero (using hooks at the time) that we recognize today as the notation for zero (as an empty place holder). As Greek astronomers begin to use symbol “0”, possibly from *Omicron*, the first letter for Greek word “nothing”, namely, “*Ovden* in Greek” - or “not”, or the first letter of the Greek word “*Obol*”, a coin of almost no value.

First appearance of zero as a number occurred by Indian mathematician **Brahmgupta** in his book on mathematics and astronomy in 628 A.D. Also, by 650 A.D. the Indian used a place-value system and zero was used to denote an empty place. They refer to it as “*sunya*”, which means empty or void, or “*kha*”, which means place. The

concept of “*Shunyata*” influenced southeast Asian culture through Buddhaist concept of Nirvana: ‘Attaining salvation by merging into the void of eternity.’ The Buddhaist theory of *sunyata* holds that all entities are empty (*sunya*) of own being. The same Sunya which stood for the void and eventually became our zero, was also used to designate the **Unknown**.

Al-Khowarizmi was the first in 810 A.D. to use zero (symbol 0) as a place holder in positional based notation. **Al-Khowarizmi** called zero Arabic “**Sifr**”, meaning “*vacant*”, from which the English “**Cipher**” or “**Cypher**” is derived.

Zero in English is from various progressive changes of Roman *Cifra*, English *Cipher*, Farsi *Sefr*; Latin *Zephirum* or *Zephyrum*, *zeuero*, *zepiro*, *cifre*. Old names include naught, tziphra, sипos, tsiphron, rota, circulus, galgal, theca, null, and figura nihili.

By 879 A.D., zero was written almost as we now know it, an oval but smaller than the other numbers.

The Italian mathematician, **Fibonacci**, in 1202 A.D., built on Al-Khowarizmi’s work with algorithms in his book “*Abacus book*”.

If you look at zero you see nothing; but look through it, you will see the world.

But zero stands not for the closing of a ring: it is rather a gateway. Zero began its career as two slanted wedges pressed into a wet lump of clay. We count by giving different number-names and symbols to different sized heaps of things; one, two, three. The story begins some 5,000 years ago with the Sumerians. The Sumerians counted by 1s and 10s but also by 60s. In the later days of Babylon, someone at last, between the sixth and third

centuries BC, made use of the slanted double wedge sign, standing in effect for: nothing in this column Why had it taken so long to signify nothing? If you say there are seven apples in a bowl, exactly what does that seven belong to? Not to any one of the apples taken singly, nor to the bowl that contains them. And if you eat one of the apples, where has the seven gone? Names belong to things, but zero belongs to nothing. It counts the totality of what isn't there. Follow the route of Alexander in 326 BC, Greeks bearing the Babylonian gift of zero. Buddha remarked: No being knows this counting except for me or someone who, like me, has reached his last existence, living outside of his house this is the end of calculation. Beyond it is the incalculable. The notion for zero came from Babylonians directly or through thee Greeks. It is the idea of absence of any number or the idea of a number for such absence? Is it to be the mark of the empty (estranged from numbers), or the empty mark (on a par with numbers)? It is embodied in the Buddhist theory of sunyata, from about the first century AD, which holds that all entities are empty (sunya) of own being.

The ancestor of many of these Western names was the Arabic Sifr or as-sifr, itself a translation of the Indian sunya, void; but the Greek psephos, pebble, for counter. So the Hebrew sifra was allied to sifr while having its own connections, perhaps, to words for crown and counting. The languid zephyrs that turned and returned over Italy in its spring, zefiro, zefro, zevero, weakened by the time they reached Venice to the zero that we use today.

The difference between 3, 30 and 300 is only some extra zeros, but those little circles are actually one of the world's greatest inventions! As early as 200 B.C., Hindu

scholars were working with nine oddly shaped symbols and a dot that eventually would bring order out of a world of mathematical chaos. The dot and nine symbols were the earliest known forerunners of the numbers 0, 1, 2, 3, 4, 5, 6, 7, 8, 9. Comprised of only ten symbols and based on multiples of ten, the Hindu numeral system was easily learned and easily used. Who first thought of using a dot (bindu, in Sanskrit) as the tenth number is not known. But it can be supposed that a Hindu, working on his abacus, wanted to keep a written record of the answers on his abacus. One day he used a symbol ‘.’ which he called shunya () to indicate a column on his counting board in which he had moved no beads... Shunya, the dot, was originally not zero the number, but merely a mark to indicate empty space. The word “Zero” was coined by the Italian mathematician Leonardo Pisano, said Fibonacci. He transformed the Arabic word, sifr (from the Semitic root s.p.r., ‘empty’) into Italian equivalent zefiro, shortened in zero afterwards. Many languages have adopted the word “zero”: English, Catalan, French (zro), Portuguese, Romanian, Spanish (cero), Walloon (zr), Albanian, polish, Japanese... Europe is divided into two regions: the ‘zero region’ (see above) and the ‘nullus region’ (nullus, ‘zero’ in Latin). The ‘nullus region’ includes the Germanic, the Scandinavian and some Slavonic countries. The following is a table of the number 0 in a sample of the languages of the ‘nullus region’:

Dutch nul, Czech nula, German null, Russian nol,
Swedish noll, Slovak nula.

Our tendency, by using our means of communication (two predominate senses of vision and hearing), in human history is to express everything (scientific, mysti-

cal, psychological and religious) in terms of seeing (vision by eyes), hearing (sound by ears) and Speaking (sound by mouth). So that our knowledge normally expressed by sound and light perceptions and in more advanced way by proportion of thought with non-physical core of thought as mind outward/inward to brain as the man in the center with no sound and light as Buddha approach the universe.

In fourteenth century, Meister Eckhart, the father of German Idealism, taught that all creatures are nothing; that being empty of things is to be full of God; that God, who must lie past all knowledge and all Being, must therefore also be nothing, has been immovably disinterested in his creation from the beginning, and still is.

The algebraic equations introduced by Al Khwarizmi in 825 A.D, solved individually by restoring the moved negative terms from one side of equations to the other side and reducing or combing the terms. Omar Khayyam solved three quadratic equations individually by dealing with the both sides of equations. **Omar Khayyam** was a mathematician, poet, philosopher, astronomer, born in Nishapur of Persia (Iran) (1048-1131).

The great progress began by introducing a single general technique to solve the whole families of equations by John Napier.

The beginning of the great progress in scientific inquiry by John Napier (1550-1617) before 1594 A.D., was also the beginning of the great confusion and misunderstanding of science and mathematics that spread throughout all fields of inquiries.

John Napier's magic by 1594 A.D. was to repeat the process of al-jabr by bringing all terms to the left of an

equation. And then he introduced the place-holder Zero of Babylonian for empty place. It really supposed to be “**nothing**”, not Zero (**0**). The confusion and the misunderstanding was that this Zero was treated mathematically as number-value Zero. This became the foundation of all mathematical equations in all branches of science and mathematics. Here, he introduced for the first time what he called “Equations to Nothing”.

What has been misunderstood for last 400 years is that the place-holder symbol Zero [0] is standing for nothing in the right side of an Equation, contains everything of the left side of that Equation.

“This is the Principle of Eventics that everything in the left side of equations that we equate to nothing **Zero [0]** on the right side, it is a [Zero **0**] that really contains everything of the left side. This right side is a [**Blank**], [**Nothing**] or [**Empty**] contains everything of the left side. The present oval shape zero **[0]** is a window to look through the universe, a gateway to the universe.”

“The general equation of Nothingness in Eventics is realized by Holistically expressing the countless Zero Equations of Science and Mathematics of the past and the future and includes those that are called non-scientific.”

Any Equation such as:

$F = Ma$ for classical mechanics,

and

$E = mc^2$ for Einstein Atomic Energy

is good only and only for defined terms within it by the author, and not anything beyond those definitions and

limitations. Other equations for such as Particle Energy superior to Atomic Energy, or other future defined equations are allowable.

In classical mechanics, the zero place-holder in the right of the DAlamber zero equation contains everything of the left side

$$F - Ma = 0.$$

And the zero place-holder of the left side of the Einstein equation contains everything on the right side

$$0 = \mathbf{G} - 8\pi\mathbf{T} \quad \text{mass-energy is present}$$

$$0 = \mathbf{G} \quad \text{"empty" space}$$

The numeral 0 should not be confused with number 0 used to express 0 to 9 numbers.

The Eventics zero equation is a ultimate zero equation for omnisuperworld and in the domain of apparent worlds only approaching the point of nothingness (0) that contains everything as passes thru tunnel of omnient to reach the real world of what is beyond our universal being.

The consequential side-effect impact of these simplified relationships disarrayed the humanity.

The Marxism based of shallow understanding of the simplified equations of 19th century cannot bring a solution to the complex social system.

The complex world needs to have a non comparative and non simplified relationship to deal with society relationship or any field of inquiries.

The author of any of these simplified equation knew that world is not that simple and the simplified equation is good and right only good for the entities and symbols defined within it and it would not include any entities beyond their original intend.

These simplified relationships bring about progress but with the consequential side-effect with surprising results.

The simplified Equation $E = Mc^2$ that is good and only good for the defined entities and aims at Atomic Energy. For Sub-particle Energy other equation would hold that may not limit itself to speed of light c .

The introduction of simple 2nd power and 2nd level derivative equation is introduced by dimensional equality of the terms involved in the equations and should not be a big surprise or magical.

A bomb of any kind described by these simplified relationship brings about the side-effect disaster to unintended people. That bomb is supposed to bring death to suicide bomber and no body else, and bring bomb not to innocent people but still accomplish the peace and fortune to all people. Any research and development is responsible to bring good thing to human and eliminate the conceptual bad thing for human.

In summary, from the concept of equality (=) and the concept of zero (0), all the equations of mathematical physics are human assumptions and are not part of real true nature. Stating as the equations of natural science is wrong and misleading.



Chapter 8

Eventics of apparent worlds

In our apparent worlds, everything starts out from dualism: When we even express a “word” we imply the dualism of “that word” and “non-that word”. A point on a sheet indicates that point as one and the background sheet as the second (dualism) point.

In our simplified apparent worlds, by the influence of our separated senses we introduce a series of concepts in connection with a series of events. Advancement of our knowledge in the domain of our apparent worlds leads us into the *unification* of these concepts and the establishment of a more fundamental concept in our apparent worlds, as an interweaving *bundle* of all of our concepts with *holistic* properties. This fundamental concept can be referred to as a *bundle of events* E_b . As we approach the **holoevent**, this fundamental bundle of concepts converges to **Nothing**. Because none of our separated senses used to develop these concepts has any meaning in the

real world of holoevent, and all our concepts including our own “*existence*” vanish in the context of the real world, (see Figure 8.1).

When we view the world by our prescribed tools (our concepts), we will approach **nothingness** as we approach the *beginning* and the *end*. Then, our apparent worlds are dependent upon what horizon we aim to view. As Lao Tzu said: Endless the series of things without name on the way back to where there is “nothing”. It should be noticed that *nothingness* (that contains everything) is opposite to *nihilism* (that denies everything).



Figure 8.1: Bundle of Events

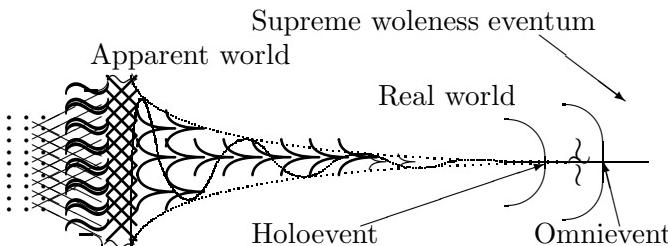
Consequently, we must be transposed to *nullity* by approaching the *holoevent* and by entering into the real world, for there is no apparent worlds in the domain of real world. This is the main position of **Eventics** in the domain of our apparent worlds which constitutes the **fundamental principle of Nothingness in Eventics**.

8.1 PRINCIPLE OF NOTHINGNESS

Eventics of the apparent worlds begins with the following *principle of nothingness*, which describes the **events** in the apparent worlds:

The bundle of the series of events of our apparent world responsible for all our concepts converges to:

NOTHING
(the **O** holder of everything)



This principle of *Nothingness* is symbolically expressed by the symbol of *cipher* (0). When the subject of concern is the nothingness, the unconditional assertion $X = X$, or the conditional world **oneness** described earlier is expressed by:

$$\text{“0”} \quad = \quad \text{“0”}$$

or

$$0 \quad = \quad \text{Nothing}$$

The symbol of *cipher* (0), (Siphra, Sifr, Cypher, Cipher), is far beyond Zero number value and it is a **Zero place holder** of ‘**Nothingness**’, where everything **is**. ‘**Nothing**’ represents the qualitative approaching value for the bundle of events \mathbf{E}_b .

Our apparent universe is filled with nothing or *no-things* (left side), it is a vast field of *no-thingness* in which everything **is** (right side); then:

$$0 \underset{\substack{\text{holistic} \\ \text{approach}}}{\asymp} \mathbf{E}_b$$

in which the bundle of events \mathbf{E}_b is a holistic mixture of the series of events occurring in our apparent worlds:

$$\mathbf{E}_b \underset{\substack{\text{holistic} \\ \text{system}}}{\asymp} \underbrace{\bigcirc \underset{\substack{\text{holistic} \\ \text{system}}}{\bowtie} \bigcirc \underset{\substack{\text{holistic} \\ \text{system}}}{\bowtie} \bigcirc \underset{\substack{\text{holistic} \\ \text{system}}}{\bowtie} \dots}_{\text{holistic system assemblage}}$$

That reads:

The bundle of events \mathbf{E}_b is a holistic system of the holistic system assemblage of series of events.

Symbol (\asymp) is a replacement for (=) and symbol (\bowtie) is a replacement for (+), and (\bigcirc) represents the conceptual entities.

With the advancement of our knowledge, this bundle of events E_b ultimately is solidified into the **holoevent**, and is expressed by a single **whole entity** when it becomes out of the grasp of human being and turns to nonexistence (nothing) in human framework.

The basic element (**Eventon**) of the Holoevent is: [*all-things-all-times-all-places-matter-mind-past-now-future-everytime-here-there-everywhere-others*]. However, it is our tendency toward the resolution of events into independent elements. We bypass the relations between them, namely, we decouple them and replace the symbol ($\bowtie_{\text{system}}^{\text{holistic}}$) with (,).

This action is similar to the “grating” or “sieving” in classical physics, by classifying the world by state and substates corresponding to the elements of the aggregate.

As an example, Physics which deals with physical events, considers *matter event* in isolation and transfer it to our apparent world by **simplest** possible form of transformation, using the *constant speed of light c*, in the form of *material energy E*: $E = mc^2$. In this sense, the *material energy E* and *mass m* are not just interconvertible, they are intended to be the same thing with different units, using the constant speed of light for their unit adjustment. The process of transformation here is a special case of the operational technique (arithmetical and functional) in which only the multiplication operation of the arithmetical operation is utilized.

As per Eventics, a general case can be considered where the combined *matter* and *mind* can be taken up, and by some operational technique the *material-mental energy* can be introduced.

8.2 Eventics of Ultimate Human Concepts

In the apparent world of human knowledge the bundle of event \mathbf{E}_b is conveniently discretized by the holistic lump ($\bowtie_{lump}^{holistic}$) of the series of events. Thus far, based on our present knowledge, capabilities, and understanding, we have proceeded with the series of approximations by the following discrete representations.

$$\{\text{Physical events } \bowtie_{lump}^{holistic} \dots\}$$

— world from without —

$$\mathbf{E}_b \underset{system}{\overset{holistic}{\bowtie}} \{\text{Psychological events } \bowtie_{lump}^{holistic} \{\text{Religious events } \bowtie_{lump}^{holistic} \text{Mystical events } \bowtie_{lump}^{holistic} \dots\}\}$$

— world from within —

$$\bowtie_{lump}^{holistic} \{\text{Social events } \bowtie_{lump}^{holistic} \text{Political events } \bowtie_{lump}^{holistic} \dots\}$$

— interactive world —

At this level, the serial (in the broader sense) characteristic of the bundle of events E_b becomes evident. This serial order of events, extending to all levels of occurrences, appears in several different categories and plays the essential role in the concept development. This development occurs by using the approximation method and introduction of further fragmentations.

The number of terms in the series and their relationships that appear significant for our investigation depend on the level of advancement of our knowledge. Nevertheless, the **holistic system** theory is applicable to all events of different categories, both individually and as a whole. In this system, everything is deterministic and predictable (pre-established). How precisely we can determine the future depends on how deep we can grasp the holoevent and understand **Eventics**.

For example, when we introduce **time** dimension in our apparent worlds, we commit ourselves:

To our *ordinary* perception that the future is undetermined and modifiable by our *will* (free will);

Or to *classical physics* with arrow of time concept and “time parameter”, in which determinism fixes the future as much as the past;

Or to *quantum mechanics* with multi-directional time concept that indeterminate and statistical propositions infer from the present to the past and from the present to the future.

When religious concept believes the world is predefined, in a sense, it introduces the world without human time dimension.

It was suggested by **Dunne** that:

The future event has, in some sense, already taken place, not in the time as we know it, but in the time in which this time unrolls (*unfolds*) itself.

The undeterministic world is created by our concept of fragmentation. Customarily, science views these events are so isolated that it assumes *nullity* is satisfied for each class independently. As a result of this *decoupling*, none of the existing theories, simple or complex, special or general, provide complete descriptions of our apparent worlds, and the *real* world. And obviously, they are prohibited to deal with **superworld**. This is the task of **Eventics**.

Science, in this context, emphasizes this *fragmentation* and expresses our thinking in terms of theories. The word *theory* is derived from the Greek *theoria* which has the same root as '*theature*' meaning to *view*. Thus, theory is a form of *insight*, a way of looking at the world, not a form of knowledge of how the world **is**. Our theories are ever-changing forms of insight, giving shape and form to experience.

Experience and knowledge also are one process, which can be referred to as *experience-knowledge* (two inseparable aspects of one whole). Our predictions that come true for us cannot be based on scientific observations alone. Of course, the word prediction, as well as the results of prediction is in reference to our customary time scale. Otherwise, it is a comprehension of that which has occurred, is occurring, and will occur with *no time* element inherent.

The belief that theories give true knowledge about reality as it is, leads us to confusion and to approach nature, society, and the individual in terms of fixed and limited forms of thought.

We should not regard our theories as a direct description of reality as it is. Every form of theoretical insight introduces its own essential distinctions and differences. We normally treat these differences and distinctions as divisions, implying *separate* existence of the various terms. This leads to the *illusion* that the world is actually constituted of separate fragments, which cause us to act in such a way that we do, in fact, produce the very fragmentations implied in our attitude to the theories (a circularity process.) We should regard these differences and distinctions as ways of looking, as guides to perception; then they do not denote separately existent entities or substances.

**Everything is connected with everything
else in a delicate and complex web of in-
terrelationships as one whole.**

Wholeness is real, and fragmentation is the response of this whole to man's action, guided by illusory perception, which is shaped by fragmentary thought. That is because the reality (*event*) is whole. We have to be aware that with our *fragmentary* approach we will be answered with the corresponding *fragmentary* response, and with the *whole* approach we will be answered with **whole**. This does not mean an integration of thought or a kind of imposed unity implying another fragmentation. Rather, all our different ways of thinking are to

be considered as different ways of looking at one reality (**event**).

No observing system can observe itself observing. The seer cannot see itself seeing. It is for this reason that at the basis of all such dualistic attempts we find only uncertainty and incompleteness: At the foundation of the **physical** world, the **Heisenberg** uncertainty principle; At the foundation of the **mental** world, the **Gödel** incompleteness theorem.

In Christian wording, by St. Bonaventure and Hugh of St. Victor, human being has three eyes:

The eye of flesh, by which he perceives the external world;

The eye of reason and mind's eye, by which he attain a knowledge of philosophy, logic, and mind itself;

And the eye of contemplation, by which he rises to a knowledge of transcendent realities.

Similarly, *perennial* philosophy describes three realms:

the gross (flesh and material);

the subtle (mental and animic); and

causal (transcendent and contemplative).

The truth in the domain of each eye can be checked only with its own eye. Sensation of physical world, reason and contemplation of world from within, disclose their truths in their own realms. This is the greatest shortcoming of the separation of these realms. Only unified holistic knowledge of Eventical reality will direct us toward the unreachable ultimate truth of holoevent and omnienvent.

For example, *mathematics* is a nonempirical knowledge or a supraempirical knowledge. Mathematics is

discovered, illuminated, and implemented by the eye of *reason*, not by the eye of *flesh*. For mathematicians, statements are viewed as statements of logical relationships. As **Whitehead** said:

Most of the mathematics is transempirical.

8.3 Physical Events

a case of world from without

Concerning with world from without, in first order of approximation, we are only concerned with the first phenomenon of the bundle of E_b :

$$0 \underset{approach}{\asymp}^{\text{holistic}} E_b$$

1st order discretization (d_1):

$$0 \underset{approach}{\asymp}^d \{\text{Physical events}\}$$

and then we expand this ‘Physical events’ in serial order by discretizing these phenomena with various order of approximations, and by developing the concepts suitable to our level of understanding.

2nd order discretization (d_2):

$$0 \underset{approach}{\asymp}^d \{(\text{Spacetime matter others}) \underset{lump}{\bowtie}^{\text{holistic}} \dots\}$$

3rd order discretization (d_3):

$$\begin{aligned} 0 \underset{approach}{\asymp}^d & \{ \text{Space-time} \underset{lump}{\bowtie}^{\text{holistic}} \text{Matter} \\ & \underset{lump}{\bowtie}^{\text{holistic}} \text{Others} \underset{lump}{\bowtie}^{\text{holistic}} \dots \} \end{aligned}$$

4th order discretization and decoupling (d_4):

$$0 \underset{approach}{\asymp^{d/d}} \{\text{Space, Time, Matter, Others, ...}\}$$

where all entities are discretized, and $(\bowtie_{lump}^{\text{holistic}})$ is replaced by (,).

We realize that each order of approximation contains a general mixture of the pertinent concepts in order to approach the nullity. However, we *group (assemble)* together only those concepts that appeal to us to be within the scope of our apparent worlds. This assemblage is obtained by certain operational technique (arithmetical and functional “;”) as a whole lump (more than a sum) of set of entities (concepts, and conceptual operations). This set forth the foundation of our apparent world (specifically apparent physical world in this case of world from without).

Furthermore, normally we simplify the *whole assemblage* (lump) of the entities that has holistic property, as a collection that implies a sum of the parts.

Thus far, in the realm of physical world, Physics deals with Space and Time either as [Space-Time: Relativity], or [Space, Time: Newtonian] and chooses two paths as follows:

1st Path: Use the third order (d_3) with two terms *space-time* and *matter* and ignoring other terms, with decoupling and a partial holistic view. This is done in the theory of **Relativity**, where matter and space-time are interchanged by a **metrical** operation;

Physics groups these entities and their derived concepts together by means of operational technique “;”:

By **decoupling** d_3 , i.e., replacing “ $\bowtie_{\text{system}}^{\text{holistic}}$ ” by “,”

0 $\stackrel{d/d}{\asymp}_{approach}$ {Space-time, Matter, Others, ...}

and grouping it:

$$0 \stackrel{group}{\iff} \underbrace{\{A[s-t] ; Bv* ; Ca* ; \dots ; \dots\}}_{e_3} \quad \underbrace{\qquad\qquad\qquad}_{e_n}$$

in which velocity-like (v^*) and acceleration-like (a^*) are the derived concepts of *space* and *time*; and A , B and C contains other concepts such as *matter*.

$$A = A[s-t], B = B[s-t], C = C[s-t, v*]$$

2nd Path: Use three terms *space*, *time* and *matter* of the forth order (d_4). This is done in the **Newtonian** physics, and it will be discussed in next section.

The level is designated by (e_n). Physics evolved from First level (e_1), to Second level (e_2), and to present Third level (e_3), as described in next section.

8.3.1 Present Physics (Galilean) Third Level Physics (e_3)

Primitive but scientific man only dealt with first level physics (e_1) where only *space* and *time* were included in the crude presentation of physical world.

Ancient crude scientific presentation of second level physics (e_2) included *space*, *time* and *velocity*. These presentations provided very incomplete pictures of the physical events such that physics did not advance very much for several centuries.

Since **Galileo**, the importance of the second order relation between *space* and *time*, i.e., *acceleration*, has been recognized, thereby, the first revolution in scientific thought took place. While **Newton** mentioned about the third derivative between space and time, he made no attempt to give it a physical meaning. The neglect of the higher derivatives was because of the belief, in this level of physics, that they are not useful for prediction. Prescientific man was aware of d_3 order, but only had a vague idea of it.

Scientific human before Galileo and after Galileo dealt with d_4 order, and grouping:

$$0 \stackrel{\text{group}}{\Leftarrow} \{\text{Space, Time, Matter, Others, ...}\}$$

Until **Einstein** introduced relativity theory where a special limited d_3 order in a define fashion was taken up.

The d_3 order used in modern physics covers classical physics including relativity theory. At this third level physics, thus far, among all possible e_1, e_2, \dots, e_n , only e_3 has been chosen for investigations, which establishes the foundation of physics to date:

$$e_3 : \quad 0 \stackrel{group}{\Leftarrow} A[s-t] ; Bv* ; Ca*$$

where

$$A = A[s-t], \quad B = B[s-t], \quad C = C[s-t, v*]$$

in which $(v*)$ is the first order relation between space and time (velocity-like), $(a*)$ is the second order relation between space and time (acceleration-like), and A, B, C are metrical parameters that can include other concepts such as matter (mass). In **Einstein**'s general theory of relativity, matter is not an independent substance placed into a pre-existing space and time. His matter is simply an expression of the curvature of space-time with four (4) dimensions.

In **Eventics**, we have higher than four dimensions, including non-digital (Continuum, Qualtum, Rainbow-like), non-integer Fractional dimensions. In the world with higher than four (4) dimensions, *matter* is a certain mode of (space-time-matter).

Present physics, including *Newtonian*, *Relativistic* and *Quantum* physics and their extensions, are based on this level of approximation of the physical events, i.e., the Third level e_3 physics.

This is a *simplistic* approach to physics, and since the fundamental definitions considered as the laws of nature attested by our experiments, it often stated that the inclusion of higher order entities makes the physics more complex and fruitless. Nevertheless, all various stages of revolution in scientific development from Galileo to

present day are only the results of the different interpretations regarding these entities in above relationship.

The term with the acceleration is defined as “*inertia force*”, and various theories and definitions are introduced in physics that are associated with two other terms. Among them are the definition of “*active force*” and various field theories.

This level of physics that includes the term acceleration associated with the wave motions.

In this physics, when we admit to the separate concepts of space and time, we integrate the above relation over “*time*” and introduce the “*momentum*” equation; and similarly we integrate that relation over “*space*” and introduce the “*energy*” equation. Therefore, the most influential concept that draws attention of all from laymen to scientists, i.e., the concept of **energy**, is a derived concept. The flaw is that it is a convenient definition that comes to existence by the integration operation of the above approximate relation, committing to the separate concepts of space and time.

In spacetime physics, the *energy* and the *momentum* would entangled. In spaceless world, this concept of energy is meaningless.

In this physics, we assure the full *decoupling* of *mass* and *acceleration* by assuming the acceleration to be independent of the mass. As a consequence, we reach the assumption of the equality of the defined *gravitational mass* and the defined *inertial mass*—the so-called “*principle of equivalence*”.

Newtonian, Relativistic and Quantum physics are theories, and all of these theories are inconsistent. Both Quantum and Relativity theories imply, in a shallow sense,

the unbroken *wholeness* of universe, rather than the analysis into independent parts.

In Relativity, movement is continuous, Causally determinate and well-defined — existence of separate events connectable by signals.

In Quantum mechanics, movement is discontinuous, not causally determinate and not well defined— committed to a well defined quantum state. However, in quantum theory, the latest in modern physics, there is no consistent notion of what reality may be that underlies the universal constitution and structure of matter or event.

Newtonian mechanics and its variations Lagrangian, Hamiltonian and Variational mechanics take on Cartesian order, a coordinates system, which is suitable for an *analysis* of the world into separately existent parts (particles or field elements). The word ‘*coordinate*’ implies a function of ordering. This ordering is achieved with the aid of a grid. Therefore, Cartesian coordinates system should not be applicable to Relativity (as put it by **Robb**) and Quantum mechanics if they imply the unbroken wholeness of the universe. Hence, the Newtonian assumptions are more consistent then the Relativity and the Quantum theories.

Physics uses the above relational concept (e_3) as its foundation in an attempt to provide a scientific description of apparent physical world.

In physics we adopt several special functional operations that make the decoupling of functional and arithmetical operation possible:

8.3.1.1 NEWTONIAN PHYSICS

This is the most simple case, in which the terms are functionally normalized and reduced to the same quality that physically and arithmetically are additive by arithmetical operation (+):

$$e_3 : \quad 0 = A[s, t] + Bv + Ca$$

is referred to by physics as the *equation of motion*. where

$$A = A[s, t], \quad B = B[s, t], \quad C = C[s, t, v]$$

In Newtonian mechanics $C = -M(\dot{\mathbf{x}}, \mathbf{x}, \tau)$ is **assumed** to be constant, as discussed later, and defined as a constant inertial mass m . (See Appendix A for a new “physical” interpretation of Newtonian mechanics, and in particular the consequence of the definitions of *inertial mass* and *inertia force*).

Newtonian mechanics expresses three laws:

“A body in rest remains at rest and a body in motion remains in uniform motion in a straight line unless acted upon by an external force; The acceleration of a body is directly proportioned to the applied force and is in the direction of the straight line in which the force acts; And for every force there is an equal and opposite force in reaction.”

These so-called three Newtonian “laws” for a lumped object are contained in the above expression e_3 , which become explicit by analyzing the terms of that expression as follows:

First: $-Ca$ is defined as “force” or the **inertia** force, a *line force*, that constitutes the second law of mechanics:

$$\text{Inertia force } F_i = -C a = -m_i a$$

in which m_i is defined as the inertial (inert) mass for mass point object.

Second: The negative of $\{A[s, t] + Bv\}$ is defined as “force” or the **active** force, another *line force*, for mass point:

$$\text{Active force } F_a = F_a(v, s, t) = -\{A[s, t] + Bv\}$$

Third: by substitution of two line forces, we obtain what is usually described as the third law of mechanics, and the equation of motion of Newtonian mechanics for mass point:

$$0 = F_a + F_i$$

or

$$0 = F_a(v, s, t) - m_i a$$

or

$$F_a(v, s, t) = m_i a$$

active	inertia
--------	---------

This equation has been generalized with several assumptions (including *non-line-force*) for volumetric bodies and it is the main Equation in present Physics.

As an example, in the case of the gravitation the active force F_a is defined as:

$$F_a = \left(-\frac{G M}{r^2} \right) m_g$$

in which, G is a universal constant, M is mass of the earth (in the case of Newtonian mechanics), r is the separation distance and m_g is defined as the gravitational mass.

This is the Newtonian gravitational force law which indicates a particle of zero *gravitational mass* experiences no *gravitational force*.

It must be realized that the mass property manifests itself in two opposite tendencies: One is *inertial mass* in that it *opposes* motion; And the other is *gravitational mass* in that it *promotes* motion.

Physics introduced several interpretations of F_a , among which the concept of the “field” is the main focus of the physics of today. In the case of the gravitation, the term $\left(-\frac{GM}{r^2} \right)$ is defined as the “intensity of the gravitational field”, then:

$$\begin{aligned} & (\text{Intensity of gravitational field}) \times (\text{Gravitational mass}) \\ & \quad = (\text{Inertial mass}) \times (\text{Acceleration}) \end{aligned}$$

In this mechanics, to assure the full decoupling of mass and acceleration, i.e., for the acceleration to be independent of the mass, we reach the **assumption** of the equality of the (defined) gravitational mass and the (defined) inertial mass—*the principle of equivalence*. Each manifestation of mass is measured in a different way, but the utmost precision of measurement has never demonstrated any difference between the two numeric.

In Newtonian, *time* is reversible, i.e., a moment, whether in the present, past, or future, is assumed to be exactly like any other moment. **Lagrangian** introduces a

set of independent coordinates (*generalized coordinates*), denoted by q (for *chameleon*) such that the equation of mechanics involves only *scalar* functions of the coordinates, rather than *vectorial*. Lagrangian is only capable in dealing with *holonomic* system, either conservative or non-conservative, although able to accommodate some simple *nonholonomic* constraints. When a constraint is expressible as an inequality, then it is classified as non-holonomic. A non-integrable constraint is only a simple nonholonomic constraint that Lagrangian is able to deal with. The holonomic constraint can be either time independent (*scleronomic*) or time dependent (*rheonomic*). **Hamiltonian** replaces the time derivatives of generalized coordinates q by generalized momentum p , which reduces the

order of the mathematical system, from second order to first order differential equations. Its feature is that all coordinates become *cyclic*, a system that involves *position* and *momentum* (a *time* order). **Variational** mechanics is based on minimal energy, i.e., Hamilton's principle which states that a conservative, holonomic system always behaves such that the time integral of its Lagrangian is minimal.

8.3.1.2 RELATIVISTIC PHYSICS

Relativity as its foundation, normalizes the *time* variable with respect to the *space* variable by utilizing the concept of *velocity*, and specifically makes connection between the *measure* of space and time by the constant *speed of light*.

The parameter $C = -M(\dot{\mathbf{x}}, \mathbf{x}, \tau)$ is defined as a mass varying with velocity only, in terms of the Newtonian constant *rest mass* M_{rest} and the speed of light c :

$$M = \frac{M_{rest}}{\sqrt{1 - v^2/c^2}}$$

It assumes that no physical particle (*tardons*) can travel with a speed faster than the speed of light.

Nevertheless, physicists introduced the special particles possessing non-physical imaginary *rest mass* M_{rest}^i (a very different mass), called *tachyons* (from the Greek *tachys*, meaning swift), traveling faster than light.

This physics introduces a **metric** (from the Greek *measure*) as the foundation of *geo-metrical* concept of the apparent world. This metric in tensor form is:

$\mathbf{g}(\mathbf{u}, \mathbf{v})$ = scalar product of two vectors \mathbf{u} and \mathbf{v} or
 $\mathbf{u} \cdot \mathbf{v}$

or in relation with elementary vector *line element*:

$$\mathbf{g} = d\mathbf{S}^2 = dS^2$$

where in a special simple assumption:

$$dS^2 = ds^2 - c^2 dt^2$$

where, if we use different space (s) and time (t) of different observers we obtain the *same* value for S (objective).

That is, we have an objective situation with regard to all observers and with respect to *real time* t , in which the *quantity* of interval dS and the form (*quality*) of dS^2 assumed to be constant.

In man made *objective* method in physical realm, the results are the same for all observers. The secret of the minus sign is that without it, we would have *subjective* situation with respect to *real time* t .

Now, by changing the unit $-c^2dt^2 = d\tau^2$ or $d\tau = icdt$, it becomes *sym-metrical*:

$$dS^2 = ds^2 + d\tau^2$$

That is a *geometric interval* in the complex variable region of:

$$dS = ds + id\tau$$

as

$$z = x + iy$$

where, if we use space (s) and time (τ) of different observers we obtain *different* values for S (subjective). That is, we have a subjective situation with respect to *imaginary time* τ .

There are two ways to view dS :

One, as a *space-like* quantity with four dimensions of ds and $icdt$, where physics imagines (implied in i) a space-like *time* entity as a “*real*” entity, as in Newtonian mechanics.

Second, as the combination of two independent entities in the region of *complex variables* of “*real*” ds and

“*imaginary*” $d\tau$, where physics imagines a *complex* (*imaginary*) world as implied in $dS = ds + id\tau$.

The relativity physics cosidering both cases develops an *imaginary apparent* world rather than a *real* world, with a limiting value of speed of light c ; or mathematically, works in a *complex (imaginary)* region to deal with both **space** and **time** at the same time.

The above **form** (quality) for dS^2 is a mere convention and indicated by the apparent world “observation”. dS^2 can be positive, negative or zero. Whereas, if we adopt a different code such as the antilogarithm of dS^2 , then space-interval receives numbers from 1 to ∞ and time-interval receives numbers from 0 to 1. When we encounter $i = \sqrt{-1}$ in our investigations, we must remember that it has been introduced by our choice of measure-code, and must not think of it as occurring with some mystical significance in the *real* world.

Furthermore, e_3 is conveniently written in the following form, called *geodesic* equation:

$$e_3 : \quad 0 = \nabla_{\mathbf{u}} \mathbf{u}$$

in which $\mathbf{u} = \partial_{\mathbf{u}}$ is *directional derivative operator* along a physical event curve (or *tangent vector operator*), and ∇ is symmetric covariant derivative operator (a geometric object) in curved spacetime.

Geodesic is a physical event curve in curved spacetime that parallel-transports its tangent vector \mathbf{u} along itself.

Using the concept of the geodesic deviation (relative acceleration of geodesics), which measures the deviation of one geodesic from another:

$$0 = \nabla_{\mathbf{u}} \nabla_{\mathbf{u}} \mathbf{n} + \mathbf{Riemann}(\mathbf{u}, \mathbf{n}, \mathbf{u}) \quad \text{curved spacetime}$$

$$0 = \nabla_{\mathbf{u}} \nabla_{\mathbf{u}} \mathbf{n} \quad \text{flat spacetime}$$

in which \mathbf{n} is the geodesic separation, and in terms of the perpendicular separation of geodesics ξ :

$$0 = D^2\xi/d\tau^2 + \mathbf{Riemann}(\mathbf{u}, \xi, \mathbf{u})$$

And, in terms of **Einstein** curvature tensor \mathbf{G} :

$$\begin{aligned} 0 &= \mathbf{G} - 8\pi\mathbf{T} && \text{mass-energy is present} \\ 0 &= \mathbf{G} && \text{"empty" space} \end{aligned}$$

where **Einstein** \mathbf{G} is given in terms of **Riemann** curvature tensor \mathbf{R} , which in turn is derived from connection coefficients Γ that in turn is calculated from metric coefficients \mathbf{g}_1 ; and \mathbf{T} is stress-energy tensor (density of energy-momentum), which is also a geometric object.

The region of the world in which \mathbf{g}_1 is approximately constant is called flat region. The theory of this case is called *special theory of relativity* (Einstein 1905).

For a given region where this condition does not hold Einstein referred to it as the *general theory of relativity* (Einstein 1916). The general expression for dS^2 is assumed:

$$dS^2 = g_{ij}dx_i dx_j$$

where in the case of curved space-time $g_{ij} = g_{11}, \dots, g_{44}$ are all non-zero, and in the case of flat space-time only $g_{11} = g_{22} = g_{33} = -1$ and $g_{44} = +1$ are non-zero. This means that the *quantity* of interval dS and the form (*quality*) of dS^2 are conserved from one reference frame to another (prime), that is:

$$dS^2 = -dx_1^2 - dx_2^2 - dx_3^2 + dx_4^2$$

$$= -dx_1'^2 - dx_2'^2 - dx_3'^2 + dx_4'^2$$

Relativity uses the *speed of light* (as a limit) for its foundation and describes the apparent world by a conical world with a **cone** of light spread to past and a **cone** of light spread to future from the source of light. This in a way gives reason for our conical apparent worlds that we live in, where the *Conical Cross Sections* due to **Apollonius** (Ellipse, Parabola and Hyperbola) with their related mathematical descriptions (Elliptic, Parabolic and Hyperbolic) provide information about the *series of events* in our apparent world.

In this context, when gravity acts within the wall of the cone light, we “see” ordinary events. When gravity acts outside of the wall of cone light, we “feel” events in the ways that are normally considered to be impossible. See Figure 8.2.

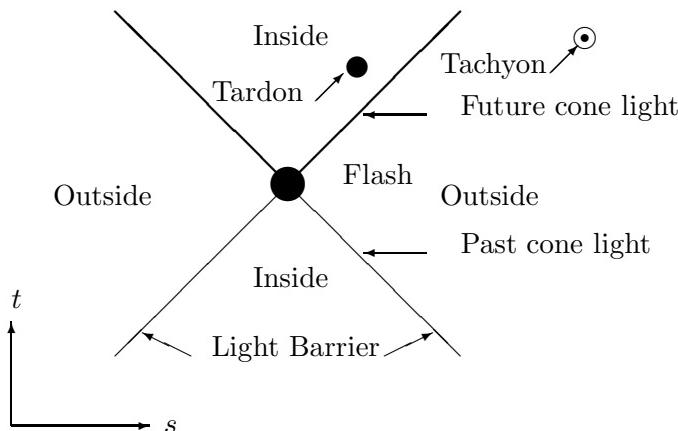


Figure 8.2: Light Cone

At the point of singularity, such as the point of flash, all law of physics relevant to our apparent worlds collapse,

whereas **Eventics** always governs.

Physicists know that there it is something other than space-time, but they don't know what it is. That "something" is the **holoevent** (holoreality) of "*real*" world as described by Eventics.

Beyond the singularity within the black hole is beyond space-time, and beyond the singularity of holoevent is beyond the *apparent world*.

Physics which deal with space and time or modern space-time, defines *beyond* as the beyond space-time. Whereas, Eventics asserts *beyond* to be beyond any concept that human can ever dream up.

Mathematicians cannot describe what is beyond, but they know there is a beyond. "Beyond all concepts including beyond space-time" is non-physical, unmeasurable, and is **Eventical**.

8.3.1.3 QUANTUM PHYSICS

Heat radiation appears in the form of discrete units or energy packets, Einstein called them “*quanta*” and thus gave quantum theory its name. The quantum mechanical analysis of atomic systems is primarily an eigenvalue problem, governed by the eigenvalue equation obtained from *equation of motion* with a special type of solutions, similar to the *frequency* (modal) equation in Newtonian mechanics.

One of the foundational postulates of quantum mechanics is the principle of *quantized* which states: information about the system’s state resides in an **eigenfunction** rather than in an equation of motion; and the physical observables in a system may assume only such **values** as are defined by the eigenvalues associated with the eigenfunctions. Eigenvalues represent values of the parameter (or observable) for which a solution exists, and define the permissible physical states in which a system may find itself.

Mathematically, the eigenvalue equation which also involves derivatives is:

$$0 = \hat{\mathcal{D}} \psi - \mathcal{E}_D \psi$$

where \mathcal{E}_D (the eigenvalue) represents the possible values of the observable (the parameter) $\hat{\mathcal{D}}$, and ψ (the eigenfunction) generates information about the state of the system. The *caret* indicates that a variable (parameter) in classical physics has been replaced by its operator dictated by the principle of operator coorespondance.

This last principle states that for each relationship among physical variables in classical mechanics when *no*

derivatives are involved, there is a corresponding relationship in quantum mechanics where the *variables* are replaced by appropriate *operators*. Four examples of the qualitative aspects of the quantum eigenvalue problem are:

1.) when observable of interest is the **position** x of a particle, then

$$0 = \hat{x} \psi - \mathcal{E}_x \psi$$

2.) when observable of interest is **momentum** p of a particle, then:

$$0 = \hat{p} \psi - \mathcal{E}_p \psi$$

3.) **energy** eigenvalue equation is:

$$0 = \hat{E} \psi - \mathcal{E}_E \psi$$

4.) in a conservative, holonomic system free of time-dependent constraints that energy is given by its **Hamiltonian**, \hat{H} :

$$0 = \hat{H}(\hat{q}, \hat{p}, \hat{t}) \psi - \mathcal{E}_E \psi$$

8.3.2 Proposed Fourth Level Physics

The first extension of the scope of physics is suggested here to deal with the higher class of problems. That is:

$$e_4 : \quad 0 \xrightleftharpoons{\text{group}} A(s-t) ; Bv* ; Ca* ; Dj*$$

where

$$A = A[s-t], \quad B = B[s-t],$$

$$C = C[s-t, v*], \quad D = D[s-t, v*, a*]$$

in which, (*) stands for (-like) for case of relativity, and j is third order relation between space and time—**Jerk**.

For the case of Newtonian physics:

$$e_4 : \quad 0 \xrightleftharpoons{\text{group}} A(s,t) ; Bv ; Ca ; Dj$$

where

$$A = A[s, t], \quad B = B[s, t],$$

$$C = C[s, t, v], \quad D = D[s, t, v, a]$$

Jerk is normally defined as a vector that specifies the *time rate of change of acceleration*—the *third derivative* of space with respect to time. Every automobile driver has direct experience with the third derivative, by pushing the accelerator, applying the brake, or changing its direction he is changing its acceleration. This physics, for example, is directly applicable to *shock* mechanics in its new formulation. This level of physics could be also associated with the *jiggle* motions.

8.3.3 Proposed Fifth Level Physics

The second extension to the scope of physics is suggested here for other special class of problems. That is:

$$e_5 : \quad 0 \xleftarrow{\text{group}} A(s-t) ; Bv* ; Ca* ; Dj* ; Ek*$$

where

$$A = A[s-t], B = B[s-t], C = C[s-t, v*],$$

$$D = D[s-t, v*, a*], E = E[s-t, v*, a*, j*]$$

in which, (*) stands for (-like) for case of relativity, and k is forth order relation between space and time—**Kick**.

For the case of Newtonian physics:

$$e_5 : \quad 0 \xleftarrow{\text{group}} A(s,t) ; Bv ; Ca ; Dj ; Ek$$

where

$$A = A[s, t], \quad B = B[s, t], \quad C = C[s, t, v],$$

$$D = D[s, t, v, a], \quad E = E[s, t, v, a, j]$$

Kick is a vector that specifies the *fourth derivative of space with respect to time*. This physics, for example is applicable to *impact mechanics* in its new formulation.

This level of physics could be associated with *Brownian motion*.

Robert Brown noticed early in the nineteenth century a motion in pollen grains suspended in water, similar to motion of tiny particles of dust dancing in a beam of sunlight. Brownian motion is a “high degree” of order, which as seen by our senses is random and discontinuous. As the degrees of order become high, we reach a description which is called ‘random’. Random should not be called “*disorder*”; rather, it has an order of a high degree. In that motion, it seems to us that the particles being kicked around by atoms and molecules attain “instantaneous speed”, which implies velocity exceeding the speed of light. To overcome this paradox and account for these phenomena, the higher terms such as **Jerk** and **Kick** should be included in describing the motion.

The development of higher order physics is necessary in order to achieve better insight of the physical problems with higher intensity of interactions between the man-made defined entities, and to eliminate the artificial so-called “hidden variables.”

In higher order physics, the so-called *hidden variables* are illusions, as maintained by **Bohr**. They were introduced by **Einstein** to describe the *Brownian* motion and are resumed in quantum mechanics. At a certain level of the apparent world, the Brownian motion appears to be totally random and probabilistic, yet as soon as one moves to a deeper level—the molecular level—the motion turns out to be totally deterministic.

Could the random process of quantum theory result from a larger number of deterministic subquantum events? Yes, similar to random vibration as a mixture of deterministic vibrations with known frequencies.

In higher order physics, the hidden variables disap-

pear, and at the level of **holoevent** with all terms included in the consideration, there would be no Einstein “*hidden*” variables nor subquantum “*hidden*” variables. All movements are to be described from the very outset as more general than Brownian motion so that the apparent continuous motions would be the approximations to actually general type of movements.

In **Eventics**, we go beyond the role of “signal” of relativity theory and quantum state of quantum theory, and **we are in a position similar to where Galileo stood when he began his inquiries.**

Of course, for new and future physical problems with highly entangled phenomena in reference to our framework, the holographic view of holoevent is required to provide the accurate formulation.

In general, for high level problems, the full course of **Eventics** *will be followed where holoevent para-holographically includes physical and non-physical entities.*

Working with higher order physics seems very complex by using the ordinary mathematical tools. The computer aided symbolic algorithm (such as Symbolic Manipulation computer Program) is best suited to remove the complexity and to make the development of higher order physics possible. This tool is also very useful in development of full scale **Eventics**, where separate dimensions not yet invented to have infinite integer and non-integer (fraction) coordinates.

8.3.4 Physical Events (high level) Mathematical Derivations

Mathematically, the **equations of physics** are derived by the operation of integration on differentiation, which can be only true when we admit to the method of *analysis* (non-holistic).

Here several mathematical derivations of e_n are given where only the arithmetical operations are involved.

There are several ways to approximate a function by a more convenient representation. As per Weierstrass theorem, any function $f(x)$ which is *continuous* in an interval, can be approximated uniformly by power series:

$$f(x) \approx P_n(x) = a_0 + a_1x^1 + a_2x^2 + \cdots + a_nx^n$$

And as per Lagrange, if $f(x)$ has n derivatives, then it can be approximated by celebrated Taylor series developed by **Brook Taylor** in 1715 and can be proved by **integration by part**:

$$\begin{aligned} f(x) &= f(a) + \frac{x}{1!}f'(a) + \frac{x^2}{2!}f''(a) \\ &\quad + \frac{x^3}{3!}f'''(a) + \text{etc. à l'infini.} \end{aligned}$$

These approximations correspond to what **Fourier** writes: “The natural phenomenon whose laws we are searching for, is actually divided into distinct components that correspond to the various terms of the series.”

Wronski

Hoëne (Jozef Maria) **Wronski** (1776-1853) in his *Euvres Mathématiques* (1811), which is a mixture of the

theory of infinite series, difference and differential equations, and complex variables, derived what he called “la loi universelle de la génération des quantités, et la Loi SUPRÉME des Mathématiques” that in English, is “the Grand Law of the Generation of Quantities,” as the *Key to the Universe*. He started out with **Taylor series** and generalized it as follows:

$$\begin{aligned} F(x + i) = & \quad F(x) + \frac{i}{1!} \cdot \frac{dF(x)}{dx} + \frac{i^2}{2!} \cdot \frac{d^2F(x)}{dx^2} + \frac{i^3}{3!} \cdot \frac{d^3F(x)}{dx^3} \\ & + \text{etc. à l'infini.} \end{aligned}$$

where i is a real variable; or for $x = 0$, designated as x^0 :

$$\begin{aligned} F(i) = & \quad F(x^0) + \frac{i}{1!} \cdot \frac{dF(x^0)}{dx} + \frac{i^2}{2!} \cdot \frac{d^2F(x^0)}{dx^2} + \frac{i^3}{3!} \cdot \frac{d^3F(x^0)}{dx^3} \\ & + \text{etc. à l'infini.} \end{aligned}$$

and changing i to x :

$$\begin{aligned} F(x) = & \quad F(x^0) + \frac{x}{1!} \cdot \frac{dF(x^0)}{dx} + \frac{x^2}{2!} \cdot \frac{d^2F(x^0)}{dx^2} + \frac{x^3}{3!} \cdot \frac{d^3F(x^0)}{dx^3} \\ & + \text{etc. à l'infini.} \end{aligned}$$

and assuming $x = \psi y, y = \phi x$, then:

$$\begin{aligned} \frac{dF(\psi y)}{dy} &= \frac{dF(x)}{d\phi x} = \Xi_1, \quad \frac{d^2F(\psi y)}{dy^2} = \frac{d\Xi_1}{d\phi x} = \Xi_2, \\ \frac{d^3F(\psi y)}{dy^3} &= \frac{d\Xi_2}{d\phi x} = \Xi_3 \quad \dots \quad \dots \end{aligned}$$

and then:

$$\begin{aligned} F(\psi y) = & \quad F(\psi y^0) + \frac{y}{1!} \cdot \frac{dF(\psi y^0)}{dy} + \frac{y^2}{2!} \cdot \frac{d^2F(\psi y^0)}{dy^2} \\ & + \frac{y^3}{3!} \cdot \frac{d^3F(\psi y^0)}{dy^3} + \text{etc. à l'infini.} \end{aligned}$$

or finally by the Paoli series for $y = \phi x = 0$:

$$\begin{aligned} F(x) = & \quad F(x^0) + \frac{\phi x}{1!} \cdot \Xi_1^0 + \frac{(\phi x)^2}{2!} \cdot \Xi_2^0 + \frac{(\phi x)^3}{3!} \cdot \Xi_3^0 \\ & + \text{etc. à l'infini.} \end{aligned}$$

and finally he expressed it by:

$$F(x) = A_0\Omega_0 + A_1\Omega_1 + A_2\Omega_2 + A_3\Omega_3 + \text{etc. à l'infini.}$$

as the **Grand Law**, a general scheme for expressing a function as linear summations of other functions—in here called **Wronskian** function. This expression can be used either:

- 1) to state that Wronskian function $F(x)$ represents a special case of the **Bundle of Event** with *arithmetical operations*, or
- 2) rewriting it to resemble e_∞ :

$$0 = F + B_0\Omega_0 + B_1\Omega_1 + B_2\Omega_2 + B_3\Omega_3 + \text{etc. à l'infini.}$$

in which only *arithmetical operations* are preserved.

Another mathematical derivation of this special case is achieved by direct application of the **integration by part** of a function $f(\tau) = f(\mathbf{x})$, in which τ and \mathbf{x} represent time and space respectively.

The author of this book of Eventics has carried out the derivation of this Grand Relation, but the tedious derivation will not be given here, and the result is summarized as:

$$\begin{aligned} \mathbf{0} &= f(\mathbf{x}) \\ &+ \dot{\mathbf{x}} \mathbf{L}_1(\mathbf{x}) + [\text{nonlinear of } \dot{\mathbf{x}}] \\ &+ \ddot{\mathbf{x}} \mathbf{L}_2(\dot{\mathbf{x}}, \mathbf{x}) + [\text{nonlinear of } \ddot{\mathbf{x}}] \\ &+ \dddot{\mathbf{x}} \mathbf{L}_3(\ddot{\mathbf{x}}, \dot{\mathbf{x}}, \mathbf{x}) + [\text{nonlinear of } \dddot{\mathbf{x}}] \\ &+ \cdots + \mathbf{x}^{(n)} \mathbf{L}_n + [\text{nonlinear of } \mathbf{x}^{(n)}] + \cdots \end{aligned}$$

in which $\cdot = \frac{d}{d\tau}$ and \mathbf{x} is function of time τ . to represent the first phenomenon (Physical Event)of the bundle of \mathbf{E}_b :

$$\mathbf{0} \underset{\text{approach}}{\underset{\sim}{\overset{\text{holistic}}{\approx}}} \mathbf{E}_b$$

There are many ways to carry out the integration by part and interpret the resulting expression, each of which provides an interesting insight and application. For example the above expression can also be obtained by one step *integration by part* if we start out with a function $f(\tau) = f(\dot{\mathbf{x}}, \mathbf{x})$.

Mathematical Approximation

Physics conveniently subdivides these terms into two categories and defines the first two terms by “active force”, and the rest by “hyperinertia force”, ignoring the nonlinear terms,. That is:

$$0 = \begin{array}{c} F_a \\ \text{active force} \end{array} + \begin{array}{c} F_{hi} \\ \text{hyperinertia force} \end{array}$$

Historically, **C. Neumann, W. Voigt, L. Koenigsberger** introduced the *hyperinertia force*, (then called simply “force”), with higher than the second derivatives, and in particular the Koenigsberger book, “*Die Principien der Mechanik*” (Leipzig 1901) is full of “*hyperinertia force*” and “*hyperkinetic energy*” with higher derivatives. The best textbook on Methods of Mathematical Physics is by **R. Courant and D. Hilbert**(1962), (Vol II, Pages 523 and 577), and page 702 for “fractional” differentiation.

Here, the term “inertia force” is preserved for definition of inertia force involving only the second derivatives with only **one** corresponding defined “mass”.

From the above expression, it can be seen that as there is no manifestation of “inertia” in the case of an object in free fall in a static field:

$$0 = F_a + \not{F}_i$$

there is also no manifestation of “anything” for an object in zero (0) bundle of event \mathbf{E}_b at the holoevent.

$$0 = \mathbf{E}_b = \not{F}_a + \not{F}_{hi}$$

The *integration by part* can be implemented up to a certain level of interest by having a remainder term. For example, when the integration is carried only two steps, or using above expression with two derivatives:

$$0 = f(\mathbf{x}) + \dot{\mathbf{x}} \cdot \mathbf{A}(\mathbf{x}) + \ddot{\mathbf{x}} \cdot \mathbf{B}(\dot{\mathbf{x}}, \mathbf{x}) + \mathbf{R}$$

This mathematical expression complies with the *principle of nothingness* regarding the physical events, in which the time variable τ is implicit.

This is the mathematical foundation of Galilean (classical) physics, in which usually the term \mathbf{R} is dropped out, and $\ddot{\mathbf{x}} \cdot \mathbf{B}(\dot{\mathbf{x}}, \mathbf{x})$ is defined as *inertia force* designated by $-\mathbf{M}(\dot{\mathbf{x}}, \mathbf{x}, \tau) \cdot \ddot{\mathbf{x}} = F_i$.

The combined first two terms plays the main role in the Galilean physics including Newtonian mechanics, Relativity and Quantum mechanics. Various definitions are given to this combined term: force or field of force

or simply *field*; and various theories developed in physics regarding this portion of the *principle of nothingness*.

For example, the Newtonian mechanics defines the negative of the first two terms by *active force* as a position, velocity and time dependent entity, namely:

$$-\{f(\mathbf{x}) + \dot{\mathbf{x}} \cdot \mathbf{A}(\mathbf{x})\} = F_a(\dot{\mathbf{x}}, \mathbf{x}, \tau)$$

Then:

$$\begin{array}{lll} F_a(\dot{\mathbf{x}}, \mathbf{x}, \tau) & = & M(\dot{\mathbf{x}}, \mathbf{x}, \tau) \ddot{\mathbf{x}} \\ \text{active force} & & - \text{inertia force} \end{array}$$

This mathematical derivation for special case that complies with the *principle of nothingness*, provides the main expression of Classical Physics that is commonly referred to as the “Second law of Mechanics”.

In usual Newtonian mechanics $M(\dot{\mathbf{x}}, \mathbf{x}, \tau)$ assumed to be constant and is defined as a constant (*inertial mass* m). (See Appendix A for new physical interpretation of Newtonian mechanics, and in particular the consequence of the definitions of *inertial mass* and *inertia force*).

8.4 Psychological Events

A CASE OF WORLD FROM WITHIN

The events occurring in the world from within encompass the unified reality from “pre-” states through “trans-” states realities (events). The whole-psychology deals with pre-states realm and trans-states realm as one whole reality, which contains the common descriptions of pre- and trans- states. It is a unified world paradigm that includes philosophy-psychology, transcendental religion-mysticism. It deals with the knowledge of philosophy, logic, mind, and knowledge of transcendent realities.

This is referred to as the ultimate-psychology which is a psychology of fundamental wholeness of the world from within. The psychological development and transcendence are two different words for the very same process. The form of growth is the form of transcendence and development, from subconsciousness through self-consciousness to superconsciousness, remembering more and more, transcending more and more, integrating more and more, unifying more and more, until we reach the **Unity** which was always there from the start.

In psychology, three general realms are recognized—*subconscious*, *self-conscious*, and *superconscious*; or *pre-rational*, *rational*, and *trans-rational*; or *pre-personal*, *personal*, and *trans-personal*. There are some similarities between pre- and trans- states leading to pre/trans fallacy committed: by **Freud** by reducing the trans-rational to the pre-rational; or by **Jung** by elevating the pre-rational to the trans-rational. Nevertheless, there is a merit to these similarities that pertain to the source of all of our apparent and non-apparent worlds, i.e., the

omniwholeworld. However, these states still should be considered as two different realms within our apparent worlds. Nevertheless, the inspiring knowledge from one state to the other is useful for the concept development.

The *highest reality (holoevent)* is the eternally unthinkable. Thought creates things by slicing up reality (event) into small bits (series of events) that it can easily grasp. Thus, when we are *thinking* we are *thing-ing*. Thought does not report things, it distorts and slices reality (event) to create things. In doing so very essence of reality escapes.

Wilber well described the various stages of the human development in his *Atman project book*. The first stage of consciousness is *pre-temporal*: no past, no present and no future, in which the infant is totally ignorant of time because it is not introduced to him. The last stage of consciousness is *trans-temporal*. The infant fusion state is pre-subject/object differentiation, pretemporal, pre-spatial, preverbal and prepersonal.

The mystic and psychological union is trans-subject/object, transtemporal, transspatial, transverbal and transpersonal. The infant cannot distinguish, while the mystic, being aware of the conventional duality, transcends. The overall life cycle consists of all stages of consciousness:

From subconscious to self-consciousness—the outward movement or the path of pursuit characterized by **self-assertion**.

From self-consciousness to super-consciousness—the inward movement or the path of return characterized by **self-realization**.

8.4.1 Begining and End in Apparent World

We call outward *objective* and inward *subjective*.

It begins with the moment of birth when the infant does not possess a developed self sense. For the new born child, there is no real separation between inside and outside, subject and object, body and environment. From the infant's view there are **events**, but no objects and not as objective events separate from himself. His awareness is only events, it is spaceless, timeless, objectless. The self is "pleromatic" meaning that the objective world and the infant's subjective awareness are completely undifferentiated, and in a sense, his self and his physical environment are one and the same. This stage is one of absolute non-dualism which is pre-spatial and pre-temporal. There is no real space, no gap, no distance, and no time. It ends with ultimate unity consciousness, the ultimate reality (the Atman).

The superconsciousness described by **Wilber**, the beyond-mind realms, in which time collapses into the Eternal Now and continues to flow through it and from it, with state of timelessness through formlessness, presents the mystical and psychological aspects of the *holoevent* and the *omnievent*. Nature happens simultaneously—everywhere at **once**, no before, no after. It has the whole of its existence simultaneously. This is the nature of *Eternity*.

The notion of succession, the idea of time, is the process of memory. Memory creates an illusion of time. This present moment contains all time and is itself timeless, and timeless present is Eternity itself—a moment with-

out date and duration, extension or succession, past or future, before or after.

According to Eastern mysticism, God's creativity is an event of timelessness, of nothingness, of absolute void (resembling the *holoevent* of Eventics)—empty void with everything. When we create “time”, the creation presents itself as a series of events. The now-moment in which the first man was created and the now-moment in which the last man will disappear, and the now-moment in which I am speaking are all one in the holoevent and the omnient (the mystic God) in which there is only one Now. As Christ claimed: “Before Abraham was, I am”.

The apparent (illusory) creation or evolution of our conventional levels of consciousness is from, or out of, the level of mind, as illusory evolution of mind into time. In the domain of apparent worlds, Wilber suggested ‘the perennial psychology’, for universal and unanimous insight into the very nature and essence of consciousness. It is not pre-vision or fore-sight; rather, it is an “on-sight” (today we call it insight).

8.4.2 Self

Following the perennial psychology, we view the individual **Self** as an illusion and its world as a dream.

Eastern wisdom awakens the *Self* from this dream;
Western disciplines prevent it from becoming a
nightmare.

Scientific knowledge of *self* is not real knowledge. *Self* knowledge is possible only when scientific studies (or human studies for that matter) come to an end. William James defined a man's *self* as the sum total of all that he *can* call his, not only his body and his psychic powers, but his clothes and his house, his wife and children, his reputation and works, his lands and horses, and yacht and bank-account. Biologists claim that a man's *self* (his real being) is the entire organism-environment field.

Myself is a conglomerate of various sensations, and since all sensations are something I have, then I am forced to say that "I" have a *self*. But who is the "I" that has a *self*? Another *self*—a second *self*? And who has this sensation of a second *self*? A third *self*? And so on. (See serialism by **Dunne**). Apparent subjectivity of the *self* exists only on the plane of relativity and vanishes in the absolute.

Schrödinger said: In truth, there is only one reality; he called it Mind (cap M), which is comparable with the holoevent in Eventics. The multiplicity of individual minds (series of events) is apparent. What seems to be a plurality is merely a series of different aspects of this one reality (holoevent), produced by deception.

Eventics metaphorically points to reality as that single and absolute ground of all phenomena. Re-

ality is actually neither one nor many, singular nor plural, transcendental nor immanent. It is that **namelessnothingness**, which to our world appears “*nothing*”, but to real world is “**all things**”—it is the **holoevent**.

Any proposition that claims to embrace reality must contradict itself. For example, suppose we state that reality is absolute being, that it is infinite and unlimited. Absolute and unlimited being, however, positively excludes relativity and non-being, and exclusion is a mark of limitation. Thus the “unlimited being” is limited, and it is contradiction.

Any statement makes sense only in terms of its opposite. Any idea that one can possibly conceive has meaning only in relation to its opposite—up makes no sense without down, left makes no sense without right, being makes no sense without non-being, boundless without bounded, truth without falsity, good without evil, dark without light.

However, reality in real world as a whole has no opposite and thus it can never be thought about.

Holoevent (holoreality) is beyond all forms of dualism, in it there are no contrasts—it is the coincidence of opposites and non-dual. When it is viewed in the physical realm, it curves back in on itself like a **Mobius** strip, and thus has no outside and no inside, or its inside is its outside. Our common logic operates on the basis of pure dualism, and it therefore cannot see that an inside is an outside, an up is a down, a good is an evil and so on.

In Eastern philosophy, each and every thing simultaneously includes **all things** in perfect completion, without the slightest deficiency or omission. To see one object

is to see all objects. That is, a tiny individual particle within the minute cosmos of an atom actually contains the infinite objects and principles in the infinite universes of the future and of the remote part in the perfect completeness without omission. It is the highest attempt to put into words the non-dual reality that itself remains wordless, unspeakable, and put into words the nameless **nothingness**.

Modern western philosophy, as in modern system theory and in Gestalt psychology, in some extent, express similar view. However, they refer to wholeness, holistic, organismic, gestalt, with the concept of the systems of separated elements in mutual interactions.

Eventics describes the real world with inseparable entities. These entities are separated when comes within the scope of our apparent worlds. Subject and object, observer and observed, good and evil, and in fact, all opposites are *different* but not separable. We are in recursive world, as **Whitehead** said:

Each happening (event) is a factor in the nature of every other happening (event), we are in the world and the world is in us.

The harmonious cooperation of all beings arose, not from the order of a superior authority external to themselves (God), but from the reality that they were all parts of wholes forming a cosmic pattern, and what they obeyed were the internal dictations of their own natures—the nature of the **holoevent**.

Our ordinary conception of the world as a complex of things extended in space and succeeding one another in time is only a conventional map of the universe—it is

not real. Universe splits itself into observer vs. observed and becomes distinct from itself. Our conventional, dualistic, symbolic pictures are subtle falsifications of the very reality (event) they seek to explain.

Human can no more separate himself from universe and extract “knowledge” from it than a hand can grab itself or an eye can see itself. If I have a fly in my eye, how can I see that I have a fly in my eye? Mind cannot see (think) itself, sword cannot cut itself and finger cannot touch its own tip. Human stands in his shadow and wonders why it is dark. Thus, human lost in his own shadow, is unable to conceive what the real world is in its actuality.

The conceptualization and objectification refers to the same process, because at the moment we form concepts about universe, “we make” that universe objective.

It should be realized that none of our notions apply to holoevent and omnievent. For example, if the “before” and “after” are both in one and the same Now, then what happened ten thousand years ago would be simultaneous with what is happening today. This requires, in accordance with our apparent worlds concepts, to have “absolute rigid medium” and “infinite speed” which are irrelevant to real world of holoevent.

8.4.3 Mind and Consciousness

In Eventics, **mind** is intemporal, timeless, eternal—a *now-moment* viewpoint of consciousness which is a psychological interpretation of the philosophia perennis. Consciousness is sometimes treated as Spectrum to tell what it is like, similar to the spectrum of energy waves of various wavelengths, frequencies, and energies describing all radiations such as x-rays, visible light, radio waves, infrared, ultraviolet and etc., as different bands of one spectrum.

Consciousness can be treated as a spectrum of penetrating forms of energy, from the finest all-radiating luminous consciousness down to the densest form of materialized consciousness which appears before us as our visible, physical body, as it approaches to the physical reality (event).

Following **Wilber**, various levels in spectrum of consciousness can be described by three major levels:

1) The **Ego** level is that band of consciousness that comprises our role, our picture of our self, our self-image with both its conscious and unconscious aspects, as well as the analytical and discriminatory nature of the intellect, of our “mind”. The Ego level includes the “mind”.

2) The **Existential** level involves our total basic sense of existence, of being, along with our cultural premises. It forms the persistent and irreducible source of a separate I-awareness. The Existential level includes both the “mind” and the “body”.

3) The **Mind** level is commonly termed mystical consciousness and entails the sensation that we are *fundamentally one with the universe*. It includes the “mind” and the “body” and the “rest of the universe”.

8.4.4 Psychological Event

Concerning the pre-state of consciousness, Piaget's studies are very valuable. **Piaget**, concerning the pre-personal state of development, believed that the features of child thought constitute a coherent whole, such that each of its terms partially implies a portion of the other terms.

Child thought cannot be isolated from the factors of education, and all the various influences, which the *adult exercises upon the child*. But he believed these influences do not imprint themselves upon the child, they are deformed by the living being who comes under their sway, and they are incorporated into his own psychological substance. *System theory* considers a series of structures and search for ways of understanding their interconnections. *Psychology* considers structures as *things*.

Piaget as in Eventics, states that structures are not things or beliefs, but they are coherent sets of *mental operations*, which can be applied to things or beliefs. The belief in the conservation of matter is not a "structure". Rather, *the set of operations*, by which this belief is arrived at, is a structure. Piaget believes children develop a set of operations that permits them to discover, for example, the conservation of matter. Child notion of conservation of matter is logical operation by means of which the subject maintains magnitudes and relations despite preconceptual transformations.

Piaget had tried to show the childhood origins of human knowledge in: logic, language, morality, mathematics, space, time, chance and play. He has dealt with a wide spectrum of psychological processes: reasoning, perception, imagery, memory, imitation and action. He was concerned with genetic epistemology and with explor-

ing its biological and psychological implications. **Piaget** is best referred to as an *interactionist*, somewhat as a *nativist* and in a sense, *empiricist*.

Piaget genetic epistemology consists of interactionism, constructivism, and logical determinism. As he said:

“Child at early age does not *discover* reality, he *constructs* the reality”.

Egocentrism helps to make the child unconscious of himself as far as to prevent him from being aware of the phenomenon of thought as a subjective phenomenon, and to prevent from establishing the exact limit between his own ego and the external world. We admit that child is ignorant of the distinction (separation) between the physical and the psychological qualities. Consequently this ignorance leads him to regard the external world as endowed with both physical and psychological qualities at the same time, which is the tendency to “precausality”—the tendency to take a psychological motive as the true cause of everything.

Piaget believed that child realism is intellectual and not visual, full of considerations that are foreign to pure observation: justification of all phenomena, synergeticistic tendency to connect everything to everything else—confusion of physical causality with psychological or logical motivations. The child only sees what he knows, and sees external world as though he had previously constructed it with his own mind. Child is not interested in spatial contacts nor in mechanical causation. The features of child thought really constitute a coherent whole, such that each of its terms partially implies a portion of the other terms.

Piaget discussed the pre-personal level at six early stages of child development as follows:

1. At first stage (birth to 6 weeks), objects dissolves into **nothingness**, no conceptual space and time and no causality—a preknowledge of the **holoevent**.
2. At the second stage (6 weeks to 5 months), there are no permanent things and spaces still kept separated but there is a beginning of coordination among them, there is also an early concept of time based on periodical repetitions. At this stage, the entire sequence of individual movements and acts (series of events) being fused into one undifferentiated lump—similar to the *holoevent*.
3. Child at third stage (5 months to 9 months) begins to coordinate between vision and prehension; and make general coordination of the different spaces and all the separate spaces are unified into a general container (S_0).
4. At forth stage (9 months to 12 months), the stage of coordination between means and goals, child begins to develop the concept of time by ordering of instants into “before” and “after” as crude as “before” and “behind” in space.
5. At fifth stage (12 months to 18 months), the stage of discovery of new means, child takes into consideration the total organization of displacements when they are all simultaneously visible. Objects begin to be considered as independent, and the group of displacements is being structured. Objects become

permanent and perceived in itself with some spatial and physical connections independent of child action on them.

6. At sixth stage (18 months to 24 months), the stage of insight, child is capable of structuring space in a coherent way. To him, object is permanent in its objective location in the world where subject is simply another object.

According to Piaget, the child develops at an early age all aspects of the symbolic function including language or more accurately, the semantic function: The ways in which the individual represents his world, his actions, and his experiences to himself. The infant is capable only of actions in the *here* and *now* of his actual experience (*here-now-universe*), with little anticipation of the future or recourse to the past. This *pre-personal* concept of reality corresponds to spaceless, timeless concepts of *trans-personal* concept of reality.

8.4.5 Child logic, time, space and speed

Piaget believed in a view based on a system of operations similar to Boolean algebra which is an algebraic system based on mathematical relationships borrowed from Boole's symbolic *logic*. **Boole** in his masterpiece, *An Investigation of the Law of Thought* (1854), set forth the fundamental laws of those operations of the *mind* by which *reasoning* is performed, and established the science of *logic* by expressing these laws in the symbolic language of calculus.

Movement appears to the child not as a distance travelled, but a change of position or location. A pencil was “on the table” a moment ago, it is now “on the ground”—the location “on the table” is replaced by the location “on the ground”. At early age, child confuse the temporal and spatial successions and has the *lack of differentiation between space and time*. Time is the coordination of motions at different velocities (speeds with directions)—motion of external *objects* in the case of *physical* time, and motion of the *subject* in the case of *psychological* time. Before the operational concept of time (i.e., ratio of distance to speed) is grasped, the temporal order is confused with the spatial order, and duration with the path travelled. And speed itself is derived from space and time, meaning a circular process.

A single displacement and a chain of displacements is a movement having no speed. When the successive positions of one moving object are ordered in relation to those of another object, then the concept of speed intervenes—speed is “overtaking”. Young children conceive of speed itself in terms of the intuition of overtaking.

The child constructs the basic operation of movement

and speed as follows: In first stage, the child establishes the operation of placing objects (*placements*) or successive ordering in space. In the second stage, he establishes the operation of displacements (*movements*), which are the changes of position of the objects themselves. Then, he coordinates placements with displacements into one composed system of operations (*co-displacements*), generating the notions of temporal succession, duration, and speed relative to a reference frame. He then establishes the proportions between spaces covered and times necessary to cover those spaces, and formation of *extensive* operations. Finally, the *metric* system of operation on space and time will appear, permitting, through the construction of an iterative unity, the measurement of distances and duration and hence the measurement of the path travelled at the speed used.

It is of great value to know the psychological and logical build-up of the concepts of *movement* and *speed* in child. The general passage from intuitive thinking toward operational thinking forms the basis of reasoning, which is studied by Piaget in examining the development of concepts of movement and speed in child. The operations start with a system of *qualitative* groupments and then results in extensive and metrical *quantitative* groups. This development of the conceptions of movement and speed is correlated with the development of conception of **time**. There are several distinguished operational systems in this process some of which are:

1. Operations of “placement”, the idea of order of succession in space.
2. Operations of “displacement”, or change of posi-

tion.

3. Operations of “co-displacement”, i.e., correspondence between placements or displacements, the idea of order of succession in time, duration, and speed.
4. Operations of “relative displacements and co-displacements”, permitting composition of correlative movements and their speeds.
5. Extensive operation, i.e., mathematical which permit construction of relations of ratios, and proportionality between space and time.
6. Metrical operations, permitting measurement, through the construction of repeatable units of distances and durations, of the paths travelled and the speed.

It is interesting to note that Piaget, concerning *pre-personal* level, is consistent with **Eventics**, that children at first fuse the notions of **space** and **time** together. After this early period of lack of differentiation, the children become capable of seriating a sequence of events, and begin to understand the succession of events and they dissociate space from time, and space from speed and motion. After physical time has become measurable in a metric system, then the dissociation between a time of personal activity and a physical time comes. Children dissociate a time of personal activity and a physical time, and construct an “*objective time*” independent of “*inner time*” or the time of subjective experience that depends on feelings, effort, concentration, and other factors. **Bergson’s**

entire philosophy and lot of his psychological works influenced by that have stressed the importance of inner duration and psychological time.

The psychological events are acausal without presupposing the existence of physical space and time. The term **synchronicity** is used for the simultaneous occurrence of two meaningfully but not causally connected events, i.e., the simultaneous occurrence of a certain psychic state with one or more eternal events that appear as meaningful parallel to the momentary subjective state. It is in a special sense a coincidence in time of two or more causally unrelated events which have the same or similar meaning, in contrast to *synchronism* which means the causally simultaneous occurrence of two events. Synchronicity is a highly abstract and “irrepresentable” that ascribes to the moving body a certain psychoid property, which forms a criterion of its behavior. It is the fact of causeless order, or rather, of meaningful orderness, that may throw light on psychological parallelism. **Avicenna** knew about the occurrence of synchronistic events that are noticed by human as he said:

“A certain power to alter things indwells in human soul and subordinates the other things to her, particularly when she is swept into a great excess of love or hate or the like, i.e., when the soul of a man falls into a great excess of any passion, the excess binds thing and alters them in the way the soul wants”.

8.5 Social Events

A CASE OF INTERACTIVE WORLD

To study, comprehend and develop theory in regard to the events concerning the *interactive world* is the most complex problem facing men of all generations. The reason is that man in practical world, on an approximate basis, acquires knowledge about the world from *within* and the world from *without*, as not independent form himself. His apparent worlds and the universal being, and hence the interactive world, as the interaction of the world from within and the world from without, is already influenced by human.

The characteristics and value of social event (reality) is genuine to itself, not derived from the other events. As a result, it is **uneasy** for human to deal with this reality beyond the subjective and the objective realms. This is the reason why the social affairs received very little progress and are far behind of scientific progress or religious expansion. Unfortunately, this kind of the progress and expansion created heros in society and in particular, within the philosophers, who tried to develop social theories based on these subjective and objective realms. Our social relationships are so primitive that can be noticed by numerous crises as social events in the world. That is also why the prediction of social events even by *the planners is the matter of guess and surprise*. As a result, the interpretation of social and historical events are **subjective**, and the subject is incomprehensible by those who have not grown up with these events.

Sorokin in his social and cultural dynamics (1941)

defines three basic social value systems:

The sensate: Holds that matter alone is the ultimate reality, and that spiritual phenomena are but a manifestation of matter. All ethical values are relative and that sensory perception is the only source of knowledge.

The ideational: Holds that true reality lies beyond the material world, in the spiritual realm, and that knowledge can be obtained through inner experience. It subscribes to absolute ethical values and superhuman standards of justice, truth, and beauty. As in Platonic ideas, the soul subscribes to, Judeo-Christian images of God, etc.

The idealistic: Holds that true reality has both sensory and supersensory aspects which coexist within an all-embracing unity. Produces balance, integration, and aesthetic fulfillment in art, philosophy, science and technology. Example of this are the Greek flowering of the fifth and forth centuries B.C., and the European Renaissance.

While the cultural mainstream committed itself to fixed ideas and rigid patterns of behavior, the creative minorities appeared on the scene and carried on the process of challenge-and-response. Before 1500 the dominant world view was organic, interdependence of spiritual and material phenomena and subordination of individual needs to those of the community.

Locke used the *analogy* and introduced an atomistic view of society, reducing the patterns observed in society to the behaviors of its individuals study of human nature based on **Hobbes**, who declared that all knowledge was based on sensory perception. He was guided by the belief that there were laws of nature governing human society

similar to those governing the physical universe. This is the flaw.

Another example is the Marxist view of history known as *dialectic or historical materialism*, in which the root of Social Evolution lies in **Economic** and **Technological** development, *not in a change of ideas or values*. Marx took the dynamics of change is that of a dialectic interplay of opposites arising from contradictions. **Marx** took this idea from the philosophy of **Hegel** and adapted it to his analysis of social change. He held that:

- 1) All important historical evolution or progress *were born in conflict, struggle, and violent revolution.*
- 2) Human suffering and sacrifice was a necessary price that has to be paid for social change.

This is parallel to Darwin's emphasis on struggle in biological evolution. However, this is the flaw and it is only a simplified subjective aspect of the social reality. The ultimate essence of reality which is called *Tao* by Chinese, is continuous cyclical fluctuation as a process of continual flow and change. As **Plato** was the first to present the mode of philosophical inquiry, **Marx** was the first to introduce the mode of *social critique*. **Marx** fell into the trap of expressing his idea in *so-called scientific mathematical formula* that undermined his larger sociopolitical theory. All these models and social economic theories—Marxist and non-Marxist are Cartesian paradigm and are based on very shallow Scientific Knowledge.

Realizing the complexity of this social reality, human made no attempt to deal with it on its own ground, and only dealt with it based on “analogy” to other realms and on his “prejudice”. We witness enormous advancement

in science and technology by trial and error since the Greeks, however, have made very little progress in the conduct of social affairs. This has been realized by the humen of all generations who tried excitedly to carry over the findings of other fields into this realm. This approach has brought us a great deal of uncertainty, and lead us to where we are today with the entire current social crises that we are unable to comprehend.

We should stop the trend of development of Social Reality based on the scientific knowledge similar to Hegel and Marx, or based on Eastern and Western religious concepts and dictations, or mystical paradigm. We should not propose the theories regarding social events, of either historical past, or conducting at present or guiding future, by deriving from or applying of other branches of inquiries, and should not entail this reality to other branches of inquiries such as science, psychology, mysticism, religion, etc. This is what has been most often adopted by our guiding philosophers of the past, who were committed, to the “danger of false theories of other fields”. When the theory of these branches fails to suite our need, we eventually realize the failure of our social theory as well, but usually long after the damage has been done.

This subject of Social Reality is one of the most important branches of inquiry, in which no major advancement is achieved since the Greeks. We should appreciate the complexity of this reality, which requires understanding in a holistic fashion, irrespective of its ingredients, namely, the elements of the world from without, the world form within and the other elements of interactive world, which are introduced for our convenience.

That is, human of all cultures should admit to his ignorance in this field and be brave to initiate the task of research in social events in isolation as an approximate approach within apparent worlds, as well as the **Eventical** approach to social events. Obviously, the far reaching goal is the Eventical approach to all different series of events, with eventual grasp of the *holoevent*.



Chapter 9

Eventics of Ultimate Apparent Worlds

9.1 In Persue of Ultimate Reality = Event

$$0 \underset{\text{approach}}{\overset{\text{holistic}}{\asymp}} E_b$$

in which the bundle of events E_b is a holistic mixture of the series of events occurring in our apparent worlds:

$$E_b \underset{\text{system}}{\overset{\text{holistic}}{\asymp}} \underbrace{\textcircled{.} \underset{\text{system}}{\overset{\text{holistic}}{\asymp}} \textcircled{.} \underset{\text{system}}{\overset{\text{holistic}}{\asymp}} \textcircled{.} \underset{\text{system}}{\overset{\text{holistic}}{\asymp}} \dots}_{\text{holistic system assemblage}}$$

which reads: The bundle of events E_b is a holistic system of the holistic system assemblage of series of events.

9.2 Eventical Reality = Event

In the apparent world of human knowledge the bundle of event \mathbf{E}_b is conveniently discretized by the holistic lump ($\bowtie_{lump}^{holistic}$) of the series of events. Thus far, based on our present knowledge, capabilities, and understanding, we have proceeded with the series of approximations by the following discrete representations.

$$\{\text{Physical events } \bowtie_{lump}^{holistic} \dots\}$$

— world from without —

$$\mathbf{E}_b \overset{holistic}{\underset{system}{\approx}} \{\text{Psychological events } \bowtie_{lump}^{holistic} \text{ Religious events } \bowtie_{lump}^{holistic} \text{ Mystical events } \bowtie_{lump}^{holistic} \dots\}$$

— world from within —

$$\{\text{Social events } \bowtie_{lump}^{holistic} \text{ Political events } \bowtie_{lump}^{holistic} \dots\}$$

— interactive world —

At this level, the serial (in the broader sense) characteristic of the bundle of events \mathbf{E}_b becomes evident.

This serial order of events, extending to all levels of occurrences, appears in several different categories and plays the essential role in the concept development, using the approximation method. The number of terms in the series and their relationships that appear significant for our investigation depend on the level of advancement of our knowledge. Nevertheless, the **holistic system** theory is applicable to all events of different categories, both individually and as a whole. In this system, everything is deterministic and predictable (pre-established).

This is the Holistic system of the world from *without*, the world from *within* and the *interactive* world.

The treatment of this reality is the intermediate goal of **Eventics**. The present book as a **Menu** is only an introductory exposition of Eventics, in which the fundamental concepts and principle are presented. It opened a new door for acquiring knowledge about various events from physical to historical occurring around us. The main goal of Eventics is, by following this introductory Menu, to deal with Eventical event in its full context, and develop whatever means needed to facilitate this process. This is a never-ending quest which requires extensive research and development.

It is my intention to explore this matter in detail in future, and hope that the forthcoming exposition and future researches on this topic enable us to take a decisive step in participating intelligently in the unfolding process of our world events, and see ourselves as better human than we are ranked.

Chapter 10

Eventics of Real World

The treatment of this reality – real world with Holoevent at A is the goal of Eventics in real world.

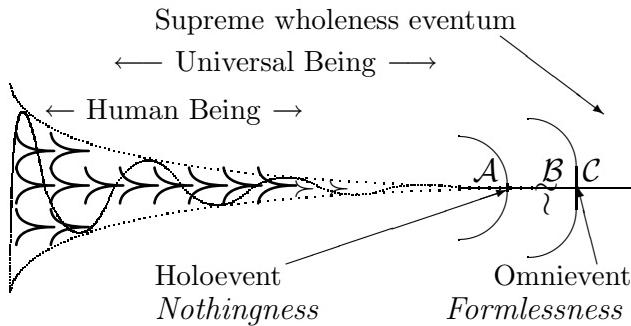


Figure 10.1: Events



Part III

THE ULTIMATE

New in this Edition

Chapter 11

Eventics of Superworld

The treatment of this reality – superworld with *Omnievent* at C is to pursue the ultimate Eventics.

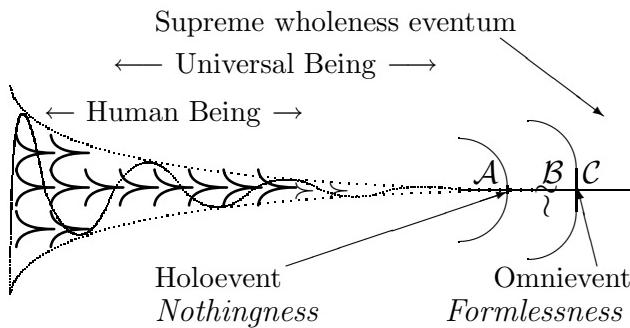


Figure 11.1: Events

Human has to go thru Tunnel ABC with complete transfusion (inhilation) at B to reach C, similiar to:
(Contact of Carl Sagan)

This is the Tunnel of Reality, as shown in Figure Figure 11.2, a vehicle of Outward and Inward communication of IN/OUT by Mobius in/out surface. We no longer comunicate only outward depicted by Flammarion Woodcut, but also Mobiussly as depicted by E. C. Escher as shown in Figure Figure 11.3.



Figure 11.2: Tunnel of Reality

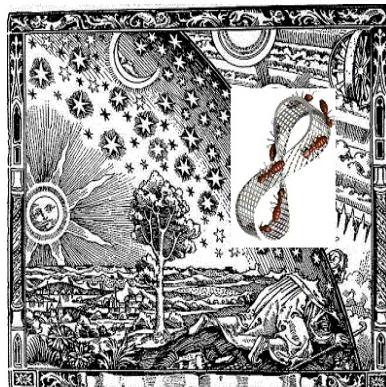


Figure 11.3: Outward and Inward Mobiussly

Chapter 12

Eventics of Eventum

The treatment of this reality – Supreme Wholeness Medium of Eventum is the ultimate in Eventics.

12.1 Eventics of Supreme Wholeness Eventum

The Supreme Wholeness Medium of Eventum with Building Block of Eventon is the Superworld of all Apparent Worlds. THIS IS FAR BEYOND OUR REACH, It is beyond point C of Omnievent.

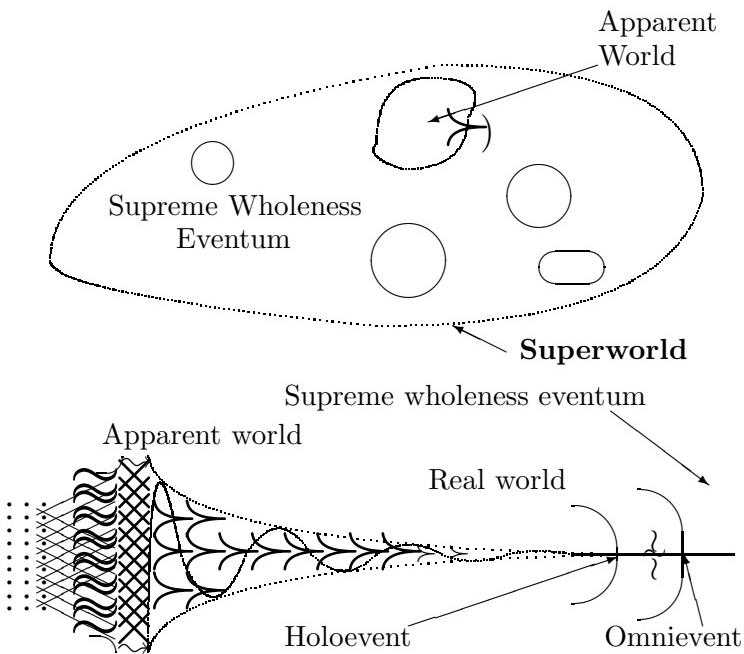


Figure 12.1: Superworld

Appendix A

Commentary

Laws of Mechanics New interpretations of classical physics

Human, in dealing with the series of events, developed, for his convenience, an approximate concept of inseparable *space* and *time*, as an entity constituent of **events**. Later, by a further approximation process he broke this mixture up into two entities by introducing two distinct concepts of *space* and *time*. To express these concepts he adopted the unconditional assertion of $X = X$. This development constitutes the foundation of science of physics we have to date. Application of this assertion to any other statement and concept can lead to other series of new sciences.

The original mixture entity of space and time was very obscure similar to the pre-personal concept of space and time at early stages of child development. Then, human in searching for simplicity developed the concept of separation of space and time, and adopted the conceptual simple space and time in order to interpret the

events within the scope of his understanding whereby he can benefit from that for his advancement. However, the separate concepts of space and time gave him very narrow picture of his apparent worlds, and provided him only with the limited knowledge about the events. As a result, he tried to improve his position by introducing a new entity—a special mixture of space and time, called *velocity*. By means of these three concepts he hoped to achieve better insight about events. Eventually, the modern physics weave these three concepts together and established the unified concept of *space-time* that contains only a special mixture of space and time, namely, the speed of light. And finally, on the same ground, physics generalized this idea by introducing the concept of *metric*, which serves a general unification of space and time.

Moreover, human developed the concept of **velocity** in a simplest form of **division of space by time**. This is based on the idea of relating the terms by *reason* or *ratio*, (see Appendix B). He could have generated other concepts such as multiplication, addition, subtraction, or any other simple or complex relation of space and time:

$$V = (\text{Space}) / (\text{Time}) \quad , \quad V_1 = (\text{Space}) \times (\text{Time})$$

$$V_2 = (\text{Space}) + (\text{Time}) \quad , \quad V_3 = (\text{space}) - (\text{Time})$$

$$V_n = f(\text{Space}, \text{Time})$$

Actually, only a general mixture entity $(st) = g(s, t)$ where s is a generalized **Wheeler**'s superspace could provide a better representation of the original space and time

mixture. Expanding this mixture in series and work with a few terms of the series leads to the separate entities of **space**, **time** and **velocity** (space/time).

A.1 Laws of Mechanics

Physical science stems from this point that: The concept of **velocity** (space/time) is recognized to play the central role in our apparent worlds and to be used as a fundamental item for our investigation.

Therefore, the fundamental propositions in physical science are the '*constancy*' and the '*change*' of velocity (space/time). And the so-called "laws" of mechanics are derived from that as follows:

A.1.1 First “Law” of mechanics

The physical science, translating man's thought into physical world by means of language, adopted the unconditional assertion $X = X$ in concerning with the term **velocity**, and introduced the first law of mechanics as follows:

We express the statement of '*constant velocity*', and we really want it to mean '*constant velocity*' in physical sense.

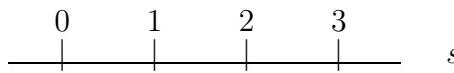
That is:

$$\begin{array}{ccc} X & = & X \\ \text{'constant velocity'} & = & \text{'constant velocity'} \\ \text{in language sense} & & \text{in physical sense} \\ (1) & & (2) \end{array}$$

The left side is the result of the process of a rough approximation of check and balance of sensations of human as a whole that pre-scientifically represents a word for satisfaction of his generalized sensation and his thought related to *space* and *time*. The right side, however, is rather involved and requires deeper understanding and consideration of whatever constitutes the physical concept of the '*constant velocity*'.

By introducing the concept of *velocity* in physical sense in our apparent world, we already *conform* with a pattern of measurement that in classical physics accepted to be equal distances for space and equal intervals for time—directly connected to the concept of *rigid* unit of measurement. In fact, for measuring a velocity, the rigid units of measurements of space and time must be rigidly attached to the reference frame of measurement.

When we mean to have a physical '*constant velocity*' of a body \mathcal{A} , if course with respect to a reference frame with measuring marks, it requires and implies to have a reference frame with constant velocity (including zero) with respect to another frame. The same argument holds for second and third frames and so on.



Frames with rigid units of measurements

Therefore, as soon as we visualize, in physical sense, a ‘*constant velocity*’ for a body, we already imply the existence of the series of special frames with well defined rigid equal units of measurements, and with the constant velocities (including 0) with respect to each other. This introduces a circular chain of interrelated frames, including the body \mathcal{A} , that have the ‘*constant velocities*’ with respect to each other. That is, by expressing a ‘*constant velocity*’ qualitatively we introduce the whole world of constant velocities. See Figure A.1

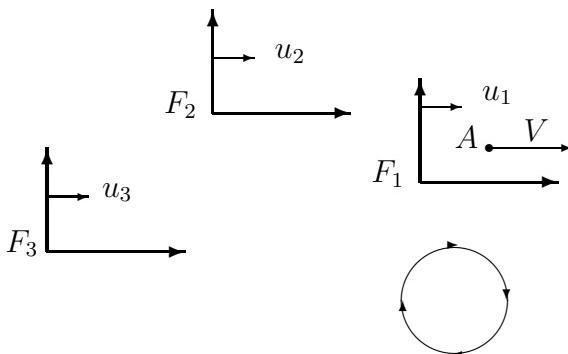


Figure A.1: Frames with constant velocities

Furthermore, when we state ‘*constant velocity*’ we really mean to have ‘*no change in velocity*’. That is, we define our apparent world to be such that when we state ‘*no change of velocity*’ we really want to have ‘*no change of velocity*’. The change is considered to be with respect to Time for its magnitude (Speed) and with respect to Space for its direction (Path).

$$\begin{array}{lll} \text{'no change of velocity'} & = & \text{'no change of velocity'} \\ \text{in language sense} & & \text{in physical sense} \\ (1) & & (2) \end{array}$$

To achieve this we automatically impose special requirements and conditions on the ingredients of the velocity, namely, **space** and **time** such that they make our concept workable for our practical use.

On the left side, the term ‘change of velocity’ is commonly called ‘*acceleration*’. By consideration of previous discussion and by taking into account the directionality of the velocity the ‘no change of velocity’ on right side represents a ‘uniform motion in straight line’.

Then, qualitatively:

$$\begin{array}{lll} \text{No acceleration} & = & \text{'Uniform motion in straight line'} \\ \text{in language sense} & & \text{in physical sense} \\ (1) & & (2) \end{array}$$

and quantitatively:

$$\begin{array}{lll} \text{No acceleration} & = & \text{Constant velocity} \\ \text{in language sense} & & \text{in physical sense} \\ (1) & & (2) \end{array}$$

Therefore, this is simply an expression with both language and physical implications that is derived from the $X = X$ assertion. Physics, unfortunately, refers to this statement as the law of nature—called the First law of mechanics. Thus, the so-called “*first law of mechanics*” is no longer a law of nature, rather, is a simple assertion of equality statement regarding the *constant velocity* which in turn implies the special requirements and conditions for the units of measurements and the reference

frames. Physics expresses this equality in the following form: Both sides are multiplied by a constant M (including zero).

$$M \times (\text{No } a) = \text{Uniform motion in straight line}$$

Generalizing the left side by including $(\text{No } M) \times a$, i.e.

$$\text{No } (M \times a) = M \times (\text{No } a) \& (\text{No } M) \times a$$

Here again, a new assumption and definition, the constant M times the acceleration is defined as "**Inertia Force**" - i.e. a volumetric (some of) internal force F_i .

Then, the above relation qualitatively will be:

$$\begin{aligned} \text{No } (\underbrace{M \times a}_{Force_{inertia}}) &= \text{Uniform motion in straight line} \\ &\& \underbrace{(\text{No } M) \times a}_{Zero-mass \ body} \end{aligned}$$

and quantitatively:

$$\begin{aligned} \text{No } (\underbrace{M \times a}_{Force_{inertia}}) &= M \times \text{constant Velocity} \\ &\& \underbrace{(\text{No } M) \times a}_{Zero-mass \ body} \end{aligned}$$

It is apparent that a different definition is attached to the term "Force" for a different *constant M*. Physics introduces several definitions for "Force" with corresponding *constant M*, and loosely uses the term "Mass" for all of these constants. The body with no M is referred to zero-mass body. Therefore, not only there are no

physical realities attached to terms “Force” and so-called “Mass”, there are also no unique definitions of “Force” and “Mass”.

As an example, in Newtonian mechanics, excluding zero-mass bodies, the term “*force*” and constant “*mass m*” are defined such that:

$$\text{No} \left(\underbrace{m \times a}_{\text{Force}_{\text{inertia}}} \right) = m \times V$$

These various forces and masses are related to the internal property of a body and are referred to as *inertia* forces and *inertial* masses respectively, and the term mV is referred to momentum. There are also other definitions for forces and masses that are related to the external conditions and referred to as *active*. It is interesting to note that the zero-mass bodies can have any acceleration when they are subjected to no force. See Max Jammer’s *concept of Mass, concept of force and concept of Space*, and refer to the works of Newton, Mach, Kirchhoff, Hertz, and Einstein (special and General theory) for several definitions of force and mass; such as inertial mass, attraction mass, microscopic mass, mass as density times volume; weak, strong, nuclear, gravity forces with corresponding masses. Also, refer to the recent unification theories regarding various force and mass concepts.

A.1.2 Second “Law” of mechanics

Similarly, the so-called “second law of mechanics” can be interpreted as follows:

We express the statement of ‘*change of velocity*’, and we really want it to mean ‘*change of velocity*’ in physical sense.

That is:

$$\begin{array}{ccc} X & = & X \\ \text{'change of velocity'} & = & \text{'change of velocity'} \\ \text{in language sense} & & \text{in physical sense} \\ (1) & & (2) \end{array}$$

The left side can be expressed by the word ‘acceleration’ corresponding to man’s thought regarding space, time and velocity. By consideration of previous discussion and taking into account the directionality of the velocity the ‘change of velocity’ on the right side represents a ‘general motion with change of velocity’, then:

Quantitatively:

$$\begin{array}{ccc} \text{Acceleration} & = & \text{change of velocity} \\ \text{in language sense} & & \text{in physical sense} \\ (1) & & (2) \end{array}$$

and Qualitatively:

$$\begin{array}{ccc} \text{Acceleration} = \text{Motion with change of velocity} \\ \text{in language sense} \quad \quad \quad \text{in physical sense} \\ (1) \quad \quad \quad (2) \end{array}$$

Physics expresses this equality in the following way: both sides are multiplied by a *constant M*, and as before that *constant M* times the acceleration is defined as “inertia Force” that is commonly called “Force”- a volumetric force, then:

qualitatively:

$$\begin{array}{c} M \times \text{Acceleration} = \text{Motion with acceleration} \\ (\text{Force }_{\text{inertia}}) \end{array}$$

and quantitatively:

$$\begin{array}{c} M \times \text{Acceleration} = M \times \text{Acceleration} \\ (\text{Force }_{\text{inertia}}) \end{array}$$

As before, it is apparent that a different definition is attached to the term “Force” for a different constant M . These definitions are related to the internal property of a body so that the forces are called the inertia forces and the masses are called the inertial masses. Physics introduces several definitions for “Force” with its corresponding constant M , and loosely uses the term “Mass”—a volumetric entity, for all of these constants. Hence, not only there is no physical reality to terms “Force” and so-called “Mass”, also there is no unique definition for “Force” and “Mass”. As an example, in Newtonian mechanics, the term inertia “force” f_i and constant inertial “mass m ” are defined such that:

$$m \times a = m \times \text{Acceleration}$$

(volumetric Force f_i)

Furthermore, the term M can be more *general* (rather than constant), as described in the text, as a function of position, velocity and time which corresponds to a more *general* definition for the “inertia force” F_i (volumetric force).

Therefore, the so-called “Second Law of mechanics” is no longer a law of nature; rather, it is a simple assertion of equality statement regarding the ‘change of velocity’ which in turn implies the special requirements and conditions for the reference frames, namely: the frames involving in measuring velocity possess *no acceleration* with respect to each other.

A.1.3 Third “Law” of mechanics

Finally, the so-called “Third law of mechanics” is only a naive assertion of equality of two different kinds of so-

called “forces”: The force that is defined from “Second law”, from acceleration (Inertia force F_i), and the force defined to contain lower derivative than acceleration, i.e., *velocity* and *space* and *time* (Activee Force F_a). In short, the Third law asserts that: “*For every action there is an equal reaction*”, **although of different kinds**:

$$\text{Active force } F_a = \text{Inertia force } F_i$$

$$\rightarrow \quad \leftarrow$$

$$\text{Force}_a = \text{Force}_i = ma$$

This establishes the foundation of the present day physics, which in approximate and naive sense admits to the **Principle of Nothingness in Eventics**, as derived in Section 7.0

Here is a **greatest mistake** of Physics, the volumetric M as mass and the volumetric “**Inertia Force**” is equated to an external line force acting on the surface of a body.

These relations with their corresponding definitions are usable within the limits of the defined terms, and any violation of these definitions causes the collapse of these so-called “laws”. For example, the “second law” collapses when we try to describe it in reference to a world having an accelerating reference frame, or in reference to a world with additional “mass” not included in the definition; or in reference to a world with additional forces beyond the definition of “force”.

It should be noted that Aristotle (same as Einstein) did not believe in the possibility of motion in an infinite straight line. He assumed a need for a force for having

a uniform motion, but his primary form of motion was the motion in a *circle*, which is in agreement with the classical mechanics.



Appendix B

Glossary

Event

Event synonymous with “reality” is the sole building block of all existence. The physics definition of “event” as a point in space and time should be referred to as “signal”. Nothing is left in the world but **event**.

Eventics

Event + ics (in English): all that is pertinent to event, Eventica (Latin), Eventika (Greek), Eventique (French).

Eventum

It is plural of eventa (analogous to quanta), and also is analogous to medium.

Eventon

The basic element of event, analogous to electron.

Implicit and Explicit

The word '*implicit*' is based on the verb '*to implicate*'. To implicate means '*to fold inward*' (as multiplication means *fold many times*). To encounter the undivided wholeness of whole world, the term **holoevent** is introduced which carries implicate (enfolded) order in implicate region of real world, and comes to grasp of universal being in explicate region of the apparent world in terms of the series of explicate events.

'*Plex*' is a form of the Latin '*plicare*' meaning '*to fold*'. Simplex means one-fold, complex means folded together, and multiplex means many complexes all folded together (literally this is what is meant by '*manifold*'). However, by custom, manifold has come to mean '*continuum*'.

Verb, Holomovement, Process

In old Hebrew, the *verbs* were taken as primary. The root of almost all words was a certain verbal form, while adverbs, adjectives and nouns were obtained from the verbal form with prefixes, suffixes, and so on. **Bohm** emphasizes a structure in which verb has a primary function. He insists on wholeness as a flowing movement similar to the **Whitehead** process. He calls the looking-glass universe the '*holomovement*' universe, and considered universe an undivided and unbroken whole (*uni + verse*). In **Eventics**, the wholeness as an enfolded order is the property of the *holoevent* of real world and the *omnievent* of omniwholeworld (superworld). The movement and process are the kind of unfolding orders of holoevent that imply the time and space or process in time. In Eventics, the unfolding order of holoevent is a single primary verb '*occurring*' (holoevent) containing all verbs. This

single *holoevent* unfolds in our apparent worlds into the *series of events*.

An example of a process is a wave on the ocean that is not a material moving toward the shore; rather, it is a process. Another example is the visible apparent motion of light of a sign with several bulbs that is produced by a series of on and off switching. As another example, a radio wave can “carry”, enfolded in its medium, various orders which can be unfolded by the electronic circuitry of a television into a two-dimensional moving image, visible as a series of apparent events.

Wholeness and Fragmentation

Western world views are based on *fragmentation*, whereas Eastern world views are based on *wholeness*. This is owing to the different attitudes of two societies toward the ‘*measure*’. West emphasized the development of science and technology (dependent on *measure*), while East emphasized religion and philosophy (directed to *im-measurable*). In this respect, **Eventics** follows the Eastern view that reality is immeasurable. Reality is beyond man and prior to him, cannot depend on measure as insight created by man. Latin verb ‘*videre*’ = to see, from which the word video. To divide = *di* (separate) + *videre* = to see as separate.

The word hologram is derived from the Greek words ‘*holo*’, meaning ‘*whole*’, and ‘*gram*’ meaning ‘*to write*’. That is, the hologram is an instrument that ‘*writes the whole*’. By the hologram, in each region of space, the order of a whole illuminated structure is ‘*enfolded*’ and ‘*carried*’ in the light waves. More generally, the order

can be ‘*enfolded*’ and ‘*carried*’ in events—electromagnetic waves, electron beams, sound, or in other countless forms of movements.

A hologram is another analogy for the whole and undivided order of the universe. A hologram, with its interference patterns of coherent (laser) light as a series of events enfolds a much subtler range of structures and orders. When these patterns are recorded on a plate and retrieved by a laser beam, the viewer sees three-dimensional scenes from many directions. The holographic plate records, coded in its interference pattern of concentric rings, a three-dimensional image of the entire scene everywhere on the plate. Each and every “part” of the plate reflects the whole image (though lacking crispness).

Description, Reason and Ratio

The word ‘*de-scribe*’ literally means to ‘*write down*’, but it does not mean that the terms appearing in such a description can be ‘*separated*’ into autonomously behaving components. A conceptual analysis provides a special sort of description, in which we can think about something as if it were broken into autonomously behaving parts.

‘*Ratio*’ is the Latin word from which our modern ‘*reason*’ is derived. In the ancient view, reason is seen as insight into a totality of ratio or proportion, regarded as relevant inwardly to the nature of things (and not only outwardly as a form of comparison with a standard or unit.) Of course, this ratio is not necessarily merely a numerical proportion (though it does include such pro-

portion). Rather, it is in general a qualitative sort of universal proportion or relationship. The primary relevant in a description is how the terms are related by *reason* or *ratio*. As a result, every theory introduces a *ratio* between the terms as an important entity for the description of the world. Old physics introduced the *ratio* of space and time as *velocity*, and relativity and quantum mechanics emphasizes on *speed of light*.

Measure, Order and Structure

In ancient Greek, the word ‘*measure*’ was regarded as inner measure, and not in the modern sense as outward display or appearance. It is implied as a form of insight into the essence of everything. They had notions of measure in music and in the visual arts. The basic meaning of the word measure was ‘*limit*’ or ‘*boundary*’, and it was specified in terms of qualitative reason. The word *medicine* (to cure), and wisdom, derived from ‘*measure*’, implies that to be healthy and wise is to keep everything in a right measure. In the modern usage of the word ‘*measure*’, the aspect of quantitative proportion or numerical ratio is emphasized. In Eventics, we consider both qualitative and quantitative aspects of the word.

The consideration of the working together of ‘*order*’ and ‘*measure*’ in the broader and more complex contexts leads to the notion of ‘*structure*’. The word ‘*structure*’ is from Latin root ‘*struere*’ meaning to build, to grow and to evolve. It implies a harmoniously organized totality of order and measure, which is both hierachic (build on many levels) and extensive (spreading out on each level). ‘*Organize*’ is from the Greek root ‘*ergon*’, meaning ‘*to*

work'. So we may think of all aspects of a structure as '*working together*' in a coherent way. The root of the word '*poetry*' is the Greek '*poiein*', meaning '*to make*' or '*to create*'. As the degrees of order become high, we reach a description which is called '*random*'. Random should not be called '*disorder*'. Rather, it has a order of a high degree. Predictability is a property of a special kind of order.

Constant

It is from '*to constate*' from Latin *constare* (*stare* = to stand, *con* = together), to establish, to ascertain, to confirm.

Jerk

It is defined as a vector that specifies the time rate of change of acceleration—third derivative of space with respect to time. In physics, it is often referenced to knock, shock, pulse and impact characteristics of mechanical behavior.

Kick

It is a vector that specifies the fourth derivative of space with respect to time. In physics, it is applicable to impact mechanics in its new formulation, and it could be associated with Brownian motion.

Omni: from Latin *Omnis* indicates all

Paradigm: from Greek *paradeigma* (pattern).

Transcend: to pass beyond the human limit

Transcendent: designates Knowledge that is beyond the limits of experience.

Prevent: pre-event

Omni-holon: denotes highest whole with no parts connotation.



DEFINITIONS

; Arithmetical and functional operations

$\underset{approach}{\overset{holistic}{\asymp}}$ Holistic approach, in place of =

$\underset{system}{\overset{holistic}{\asymp}}$ Holistic system, in place of =

$\underset{lump}{\overset{holistic}{\bowtie}}$ Holistic lump, in place of +

$\underset{system}{\overset{holistic}{\bowtie}}$ Holistic joining, in place of +

$\underset{approach}{\overset{d}{\asymp}}$ Discretized approach, in place of =

$\underset{approach}{\overset{d/d}{\asymp}}$ Discretized and decoupled, in place of =

$\underset{\leftarrow\rightarrow}{\overset{group}{\leftrightharpoons}}$ Discretized and mixed grouped

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I have more than thirty thousands references that I have studied in/out of school in several languages, since I was 7 years old, and unable to list them here!

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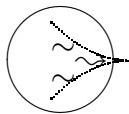
The Foundation of the Unified World

MOHSEN FAKHARI

We live in Superworld (Omniwholeworld), in which physical, biological, psychological, mystical, religious, social and historical events are only **One** whole event (reality), and in which all of these **Many** events occur within the context of our apparent worlds.

This volume is devoted to the introduction of **Eventics**, with the central thesis that the entire universe from past to future, from here to there, with all materials and non-materials, is only a single Event synonymous to reality, which is governed by only one principle—**Nothingness (Holoevent, Omnievent)**.

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